Regional unemployment dynamics and active labour market policy in Poland in comparative perspective

by

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I, Beata Maria Manthey, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

The thesis analyses the regional labour market dynamics and effectiveness of active labour market policies in Poland. The main research focus is to assess the effectiveness of the elements of ALMPs and to suggest possible explanations of the heterogeneity in their outcomes. I am interested in establishing how effective are the various components of ALMPs in alleviating the regional differences in unemployment.

The objective is to arrive at recommendations regarding the appropriate mix of policy response to the unemployment problem. The lessons that relate to Poland may also be applied to other countries undergoing a process of deep structural changes. In particular, I am interested in establishing how effective are the various components of ALMPs in alleviating the regional differences in unemployment.

The experiences of the Spanish labour market reforms are used to understand the likely trajectory induced by a similar liberalisation process and labour market institutional reform in Poland. I argue that the institutional reforms in Spain led to better labour market performance and the same outcome may be expected in Poland if similar reforms are implemented.

In the econometric part of thesis, I investigate the persistence of unemployment in the Polish and Spanish labour markets, which demonstrate that the unemployment problem is more serious than indicated by the aggregate figures. I also measure the effectiveness of the labour market policies and draw conclusions for policy makers, arguing that the unemployment problem can be alleviated if the appropriate policy mix is applied.

In particular, I have shown to what extent regional employment, unemployment and participation rate dynamics are common to all regions in Spain and Poland. The results indicate very strong regional unemployment persistence, especially in poorer regions in both countries. Both of the investigated markets reacted to shocks in a similar way. However, higher persistence in the response of unemployment to shocks has been measured in Spain than in Poland. On the other hand, Polish regional labour markets are more dissimilar than the Spanish ones, indicating more inequality in access to employment.

The results on the efficiency of ALMPs also demonstrate differences between agricultural, modern and industrial regions and different patterns of impact in line with the results on the regional labour market dynamics. The agricultural regions, with higher unemployment respond to the ALMPs weaker than the other regions. These findings are in line with the results of VAR analysis of regional labour market dynamics, which show a great persistence in unemployment, especially in the poorer regions, indicating that they do not respond in the same way as the other regions. I now offer a novel explanation to this structural outcome: the existing persistence in inter-regional differences in unemployment may be (partly) resulting from the fact that the policy measures are not adjusted and are not used selectively consistent with the local economic environment.

The results permit the drawing out of a tentative conclusion that ALMPs in Poland should be reassessed as for their efficiency. The policies should be carefully designed and should take into account the different types of regions, which might have different needs and requirements. A troublesome result is that the regions where policy support is most needed are also those, which are least responsive to policy tools.

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Chapter 1 Introduction

The thesis analyses the regional labour market dynamics and effectiveness of active labour market policy (ALMP) in a regional cross-section in Poland. The main research focus is to assess the effectiveness of the elements of ALMPs and to suggest possible explanations of the heterogeneity in their outcomes, stressing the structural/sectoral characteristics of skills and of demand for labour.

Based on that, I also aim to arrive at some recommendations regarding the appropriate mix of policy responses to the unemployment problem. The lessons are general. While I focus on Poland, I expect that the conclusions may also be applied to other countries undergoing a process of deep structural changes.

In short, I am interested in establishing how effective are the various components of ALMPs in alleviating the regional differences in unemployment. I find that they play different roles in different types of regions, and see this result in the context of a broader view of the transition process, where the implications for the sectoral restructuring process are seen as critical.

In addition, I wish to draw some lessons on the role which can be played by structural labour market reforms. The discussion is based on:

a) Economic theory as applied to the labour market
b) Experience of Spain which was facing problems similar to Poland when undergoing its structural market transition.

c) The Polish experience.

d) My own empirical results measuring regional dynamics and persistence in the labour market as well as the effect of active labour market policy tools that can be placed in the wider context of structural reforms.

While the obtained results are particularly relevant for Poland, they also apply to other countries facing similar economic circumstances.

Poland's transition from a centrally planned economy to a market-based economy has had a multitude of effects on all aspects of individuals' lives not least in terms of their experience of a newly emerging labour market. Unemployment emerged and grew rapidly in Poland as a result of the transformation of the political system in 1989, the rationalisation of the economy and the structural shock in demand, in particular, a decrease in the demand for Polish products in the former Soviet countries. Dealing with unemployment, poverty and social exclusion for some vulnerable social groups have been some of the most important challenges that have emerged after the transition. However, it seems that the transition elites have not been able to propose an optimal solution to these problems and then to implement them. As a consequence Poland was confronted by serious labour market dislocations reflected in high unemployment figures and popular dissatisfaction.

While the issue of unemployment is associated with the post-communist deindustrialisation process, the impact of the latter is not uniform and remain closely linked to the growing regional differences in labour market adjustment. The unemployment rate in Poland rose rapidly during the early 1990s deepening regional

discrepancies. This phenomenon has been due to the inherited socio-economic structures of the central planning system. In particular, after the transition, many of the regions in Poland privileged by the former system (those, which had a high concentration of nationalised farms, mining and natural resources extraction industries and implicitly access to soft finance) suffered from high unemployment. Moreover some of these effects were long-term as these regions are characterised by a labour force, which is not easily adaptable to a free market economy.

The Spanish labour market reforms experiences are also used in the dissertation to understand the likely trajectory induced by similar liberalisation processes and labour market institutional reform in Poland. I argue that the institutional reforms ultimately implemented in Spain led to better labour market performance and the same outcome may be expected in Poland. Through investigating the similarities of the Polish and Spanish labour markets I aim to draw conclusions for policy makers.

The Spanish experience in this process constitutes a valuable lesson for Poland, both from the perspective of economic transition and from that of the EU integration and coherence perspective. Therefore, policies undertaken by Spain are analysed in terms of their relevance to the Polish labour market.

Spain after its accession to the European Union had the most persistent unemployment problem in Europe, with an unemployment rate that reached 24.6 percent in early 1994. A demographic shift in recent years has produced a large rise in female labour force participation and a decrease in agricultural jobs, which were blamed for part of the problem. In addition, generous unemployment benefits and the large underground economy contributed to this phenomenon. However, the biggest problem, similarly to Polish case, constituted failures and rigidities in the labour market.

We can encounter many similarities in the Spanish and Polish liberalisations. In Spain this process started almost fifteen years before the Polish transformation took place, in the second half of the 1970s. However, these two countries have a similar economic capacity and very similar labour markets, including their institutional framework. From the labour market perspective, the initial Franco era economic system had some common characteristics with the Communist command economy in Poland. One of the major problems that the two countries had in common was the relocation of the labour force from the agricultural and manufacturing sector to the service sector. In Poland, this transition was accompanied by an intense program of privatisation. Although on a different scale, Spain has also been through an intensive program of liberalisation during its transition. Similarly to Spain, the accelerated deindustrialisation still constitutes a severe problem for the Polish economy. Sectoral employment shares in Spain in 1975 (the year of Franco's death) were very similar to those in Poland in 1989. The transition in Poland was accompanied by a programme of privatisation of state owned enterprises, which was characterised by high levels of labour hoarding. The transformation into a market-based economy was accompanied by a sharp decrease of employment in both of the above mentioned sectors. After the accession to the European Community in 1986, the labour market in Spain was initially characterised by a high rate of creation of new jobs and a decline in unemployment figures, which started to grow again in 1990s. Similarly, Poland experienced an initial period of strong job creation, filling the gap in the service sector, yet the process faded away after a few years, with the unemployment rate growing beyond 20% in 2004. The recent years have brought some recovery, with the unemployment rate decreasing to 10% in 2007. More interestingly, recently, the Spanish elites found a way to reduce

unemployment, by introducing labour market reforms, again, similar to those discussed at present in Poland. Nowadays, the Spanish economy is characterised by quite a low level of unemployment by comparison with the situation in 1990s. Thus, the Spanish experience should provide Poland, as an EU new member country, with an invaluable lesson.

In order to respond to the empirical research question, and compare the quantitative characteristics of the regional dynamics in the two countries, I have investigated the persistency of the regional unemployment patterns in Poland and Spain, measured the effectiveness of the labour market policies in Poland and drawn conclusions for policy makers.

The results indicate very strong regional unemployment persistence, especially in poorer regions in both countries. Both of the investigated markets reacted to shocks in a very similar way, which supports the hypothesis and provides grounds for suggesting that Poland should adopt similar policies to those undertaken in Spain. However, higher persistence in the response of unemployment to shock has been measured in Spain than in Poland. On the other hand, Polish regional labour markets characteristics indicate more inequality in access to employment.

I analyse the developments of regional labour markets in Poland and Spain since their transition to democracy and to the opening to the international market. I concentrated on investigating the extent to which labour market shocks are shared by all regions and how regional employment, unemployment and labour force participation adjust to labour demand shocks which are region-specific. Overall, the results permit to

conclude that the behaviour of regional relative variables is very similar in Poland and Spain.

Having supported the argument of the similarities in behaviour of the labour market variables in Poland and Spain, I can suggest that similar measures of fighting unemployment could be applicable in both countries. However, given the data limitations, I can only test the effectiveness of the active labour market policies in Poland.

The effectiveness of the labour market policies has been widely discussed in the literature. Many results suggest that ALMPs are not always a solution for labour market problems. The standard approach in assessing the effectiveness of these methods is to measure their influence on the future employment prospects of their participants. It is also important to consider the macroeconomic context, as the efficiency of the programmes on the micro level does not necessarily translate into their macroeconomic effect due to the indirect macroeconomic effects resulting from these policies. ALMPs may not only have an effect on the participants themselves, but may also have effects on the non-participant and unemployed populations or even on the employed population. I aim to capture some of these external effects in the empirical design.

Thus, assessing the effectiveness of ALMPs is crucial for policy makers as these efforts may have no effects on the labour market at all, constituting a deadweight loss (when programme participants are primarily the unemployed who could find a job even without their assistance), create a substitution effect (when programme participants are employed at the expense of other unemployed, namely those excluded

from the programme) or a displacement effect (when programme participants are employed at the expense of the people employed in this job before, and who as a consequence become unemployed).

To analyse the effectiveness of the ALMP in Poland the augmented matching function model is used. Overall, the results suggest that the ALMP in some cases have a negative substitution effect (intervention works) or a displacement effect. The policy, which has the strongest positive external effect, is public works and the worst negative external effect relate to intervention works. Training has a positive, but weak effect.

The results on the efficiency of ALMPs also demonstrate differences between regions split into agricultural, modern and industrial and different patterns of impact in line with the results on the labour market dynamics. The agricultural regions, with higher unemployment respond to the ALMPs more weakly than the other regions. The overall effects of training, unlike in the other types, are negative, while the effect of intervention works is positive. Policies such as training are the most efficient in the modern voivodeships, where the efficiency of intervention works is the lowest. These findings are in line with the results of regional labour market dynamics, which showed a great persistence in unemployment, especially in the poorer regions, indicating that these regions do not respond to ALMP in the same way as do other regions.

The results obtained permit the drawing out of a tentative conclusion that ALMPs in Poland should be reassessed as for their efficiency. The policies should be carefully designed and take into account different types of regions, which might have different needs and requirements. A troublesome result is that the regions where policy support is most needed are also those, which are least responsive to policy tools.

Chapter 2 Literature review

In this chapter I do not aim to make a contribution to the general theory of unemployment. Nevertheless, the theory of unemployment is important for us as a point of reference and this brief overview is intended to establish a theoretical context for the empirical work presented subsequently. I start with general models and move to those that are most related to the empirical work based on spatial data: matching function and the wage curve. Based on this, subsequently I discuss labour market policies and empirical evidence on their effectiveness.

2.1 Theories of unemployment

Unemployment, according to the ILO definition, is a situation experienced by persons of working age who lack employment (or have not worked more than one hour during the short reference period of the previous week or day) and who are actively seeking work and are ready to take it immediately (www.ilo.org). In the simplest microeconomic terms, unemployment may be interpreted as the excess of labour supply over labour demand.

Burda and Wyplosz (2005) split the concept of *equilibrium unemployment* into frictional and structural. The equilibrium unemployment is defined as the unemployment, which would occur in the absence of short-term cyclical disturbances. *Frictional* unemployment is caused by normal occupational mobility in an economic system based on freedom of labour and economic initiative (also see Dawson, 1992). *Structural* unemployment is caused by a mismatch of supply and demand of labour. (Burda and Wyplosz, 2005; Layard, et al., 1991, Layard, et al., 2005).

In this chapter I will first discuss the determinants of short-term unemployment, i.e. around the Philips Curve. Next I will move to the key theories that describe the equilibrium rate. Finally, I will present the key insights of modern unemployment modelling that focus on labour market flows directly and macroeconomic foundations. This modelling is important for us, as it forms the basis for the empirical part of this project on ALMPs and regional differences in unemployment.

2.2 Inflation, wages, unemployment. Discussions around the Philips Curve

2.2.1 Philips Curve

According to Card (1995), the Philips curve relationship is one of the most durable and controversial hypotheses in post- World War II economics. Professor A.W. Phillips (1958) basing his work on the study of the United Kingdom in 1861-1957, raised the question of the relationship between unemployment and the rate of change in money wages. He postulated the existence of a negative relation between the rate of change of wages and the unemployment rate. The original relationship was set out between unemployment and wages but later economic generalisation related unemployment with the rate of change in prices (inflation), due to the general assumption that these two series move in the same direction.

The Phillips argument implied a trade-off between production / employment and inflation. This relationship was accepted by economists until criticism by Friedman and Phelps led it to being discredited.

Friedman criticized Philips's point of view saying that it is wrong to relate a real variable (unemployment) with a nominal one (prices). "What must be done is to relate unemployment and real wages" (Friedman, 1976). According to Jossa and Musella (1998), the strongest of Friedman's criticisms of the Philips curve was the argument for the existence of a natural rate of unemployment, which is hardly affected by Keynesian policies of aggregate demand.

Friedman's argument against the Phillips trade off was that empirical evidence in the seventies showed high levels of unemployment and inflation, so it was difficult to accept the Phillips' hypothesis as a general one. Similarly, evidence based on the countries not included in the Phillips paper, had implied results that seriously questioned the existence of the Phillips trade off.

Friedman (1968) in his *accelerationist Philips curve* hypothesis correlated the expected real wage inflation with the unemployment rate. He provided evidence that for each expected level of prices there is a Philips curve. Any change in expectations causes a shift in the Philips curve (Jossa and Musella, 1998). Assuming that workers would bargain their real wages, it was impossible to keep the inflation-unemployment trade-off in the long-run. Thus he restored the argued Phillips hypothesis but only in the short run. According to this theory, the reduction of unemployment by macro policies is only possible in the short run but not in the long run, as unemployment returns to its natural level. The Phillips curve is completely vertical in the long run.

New Classical Macroeconomics moved even further in its criticism of the Philips Curve. Economists like Lucas (1973), disproved the assumption that "policy makers have any option between inflation and unemployment, even in the short run." Their theory is based on rational expectations concerning the inflation level, based on the

information available. They claim that unemployment is caused by the inability of markets to transmit correct information. Once a macroeconomic model is based on rational expectations, the "surprise effect" of inflation is not possible. Therefore, even in the short term, an expected increase in money supply, will not affect either output, or employment level and the short run Philips curve may become vertical under these conditions.

2.3 Determinants of equilibrium rate of unemployment

2.3.1 Unemployment in the long run

As mentioned in the previous section, Friedman has introduced the relationship of inflation and unemployment in the long run, claiming that unemployment in the long run returns to its natural rate (Friedman, 1977).

The theories of unemployment in the long run may be divided into two groups, those based on flow models and those based on stock models. Pissarides (1990) and Mortensen and Pissarides (1999) provide good surveys of the former model type. Blanchard and Katz (1997) present a general model for the latter type. In general, all the models have the same implications. First, unemployment in the short-run and in the long-run is determined by real demand. Furthermore, in the long term, real demand and unemployment generally converge towards the level consistent with stable inflation (the equilibrium level). The equilibrium level of unemployment is affected first, by any variable which influences the ease with which unemployed individuals can be matched to available job vacancies, and second, by any variable which tends to raise wages in a direct fashion despite excess supply in the labour market (Nickel, et al., 2002).

Nickel, et al. (2002) also expand the subject of the variables which may influence equilibrium unemployment because of their impact on the effectiveness with which the unemployed are matched to available jobs or their direct effect on wages. In their opinion, the variables which we might expect to influence equilibrium unemployment include the unemployment benefit system, the real interest rate, employment protection laws, barriers to labour mobility, active labour market policies, union structures and the extent of co-ordination in wage bargaining, labour taxes, terms of trade changes and shifts in trend productivity growth. Below, I present the key approaches that aim to explain the equilibrium (long run) rate of unemployment.

2.3.2 Natural rate of unemployment

Friedman, (1968) and Phelps (1968) developed the theory of the natural rate of unemployment, also called equilibrium unemployment. It includes classical, frictional and structural unemployment. The natural rate is typically interpreted as the rate of unemployment consistent with constant (non-accelerating) inflation. (Blanchard and Katz, 1997). According to the natural-rate hypothesis, "the equilibrium point is independent of the adjustment path taken by unemployment and thus of all current and past monetary variables." (Coakley, et al., 2000).

However, the labour-demand curve can shift because of changes in real interest rates (Phelps 1994; Blanchard 1999), rate of productivity growth (Pissarides, 1990), real costs (Oswald, 1999), and stock prices (Phelps, 1999).

2.3.3 NAIRU

The concept of NAIRU –non-accelerating-inflation rate of unemployment- stems from the equilibrium level of unemployment at the level of unemployment where inflation stabilizes. It is argued that there is a long-run equilibrium in which level of

unemployment and inflation will be stable. (Layard, et al., 1991; Layard, et al., 2005) Yet, it is hard to measure the exact value of the NAIRU as it changes over time.

Ball and Mankiw (2002) in their paper discuss why the NAIRU changes, with a special emphasis on the reason as to why it fell in the United States during the 1990s. Their hypothesis is that "the decline in the NAIRU is attributable to the acceleration in productivity growth", (p. 2). NAIRU is approximately a synonym for the natural rate of unemployment. Changes in monetary policy, and aggregate demand push inflation and unemployment in opposite directions in the short run. Given this short-run trade-off, there must be some level of unemployment consistent with stable inflation. When unemployment is below the NAIRU, inflation can be expected to rise, and when it is above the NAIRU, inflation can be expected to fall.

The failure of monetary neutrality to hold in the world is explained in many ways by different economists. Friedman (1968) and Lucas (1973) blamed short-run non neutrality on imperfections of information (unanticipated inflation). Fischer (1977) attributed it to long-term labour contracts, Blanchard and Kiyotaki (1987) to costs of price adjustment.

According to Ball and Mankiw (2002) Friedman meant the concept of NAIRU even though he did not use this term.

Haffner, at al. (2001) investigated the relationship between the institutional and policy factors influencing the structure of product markets and those affecting the functioning of labour markets. They argue that there are reasons to expect a higher employment level as the result of an increase in product market competition (which can be caused by market liberalisation), at both the firm level and at the aggregate level. To

conclude, a comparatively high degree of product market competition will make labour demand more elastic and shift it outwards. Therefore, we should observe higher employment rates in countries with higher overall levels of product market competition. Similarly, more intense product market competition can similarly result in higher wages.

2.3.4 Efficiency Wage v. Insider - Outsider Theory

While labour market and wages were already at the core of the unemployment theory that originated from the Philips curve and its critique, the more recent approach elaborates on the micro-foundations of the labour market going far beyond the original macroeconomic discussion. Efficiency Wage and Insider- Outsider theories assume that there is a long-term employment relationship between a firm and its employees. In both theories insiders, who are experienced employees, have a protected position in their employment because of the costs of firing them and hiring new entrants in their place.

The *Insider-Outsider Theory* is most closely associated with Blanchard and Summers (1986, 1987) and Lindbeck and Snower (1988). The key element in the theory is the wage rigidity and wage-setting mechanism between the firm and its employees. Their position allows them to exercise higher wage pressures than the market equilibrium would indicate. It assumes that the firm and the insiders will set wages without regard for the interests of the outsiders.

Blanchard and Summers assume the ability of insiders to ignore the unemployed in wage setting. They focus on the implications of insider power in defining the insiders' status in the presence of shocks that alter the size of the insider group. Lindbeck and

Snower, in addition to this, explore the implications of the insiders' power for unemployment hysteresis and persistence. According to them, the insiders' power comes from a range of turnover costs that make it costly for firms to replace current employees with outsiders. The turnover costs include hiring and firing costs, morale effects of excessive turnover, and the ability of insiders to support new employees in the process of training. The labour turnover costs give power to the "insiders" as these costs cannot be entirely recuperated in the form of wage reductions of the new potential workers. Therefore, the employers are more willing to retain the "insiders" with higher wages, than to employ the "outsiders" with lower wages (Linbeck and Snower, 1988). Outsiders are those who remain unemployed or work in informal sector which does not offer them job security. Because of insiders' experience in a firm, it is expensive for a company to replace them by outsiders, as they require additional training, time and some other additional costs to work as well as insiders. Moreover, costly firing procedures including severance payments may be involved. The bigger the firm's turnover costs, the greater the power the insiders have to exercise their wage pressure. The consequence of this phenomenon is involuntary unemployment.

Lindbeck and Snower (1988) base Insider – Outsider Theory on the following assumptions:

- Insiders have some market power that arises from labour turnover costs.
- Outsiders and entrants have less market power than insiders.
- Insiders use their power in order to pursue their interests in wage negotiations.

Insiders' power to exercise an upward pressure on wages generates unemployment. According to Lindbeck and Snower (1988) the shift in wages happens as long as the firm remains profitable (absolute profitability constraint) and at least as profitable as

the new entrants on the product market (relative profitability constraint). Accordingly: "the insiders' wage cannot exceed the marginal revenue product of the firm's incumbent workforce plus the marginal firing costs. In the case where the incumbent workforce is sufficiently large, the entrants' marginal revenue product falls beneath their reservation wage and consequently entrants are not profitable to the firm." (Lindbeck and Snower, 1988). In the opposite case, some entrants can be fired and therefore the insiders set their wage expectations in accordance with the relative profitability constraint. Insiders' wages exceed the new entrants wage correspondingly to the sum of marginal hiring and firing costs. The authors emphasize that the insider – outsider theory is not connected with trade union power, as firing and hiring costs occur without the unions' presence.

The *efficiency wage theory* was developed by Stiglitz (1976) and formalised by Solow (1979). Solow's starting point was that the firm will hire workers until the marginal cost of labour is equal to the marginal unit productivity of labour, where profits are maximised. The theory is based on the belief that the level of real wages has a positive impact on labour efficiency. Therefore it is profitable for a firm to pay more than supply and demand would indicate, as it increases labour productivity and decreases labour costs. (Akerlof and Yellen, 1986, Akerlof, 1982). According to the adverse selection approach, by paying salaries above average wages, they attract the best employees to the organization. This theory assumes that the employers do not have enough information about workers productivity. Therefore they may use wage offers as a "screening device" (Lindbeck and Snower, 1988) and by this mean attract better and more efficient candidates.

Lindbeck and Snower (1988) underline the difference between the two above theories. Both theories have different assumptions and different implications. The first one concentrates on workers' influence on wage determination, while the latter focuses on the firms' influence on wages. The authors state that these theories can be considered as complements, not substitutes.

2.3.5 Institutional determinants of unemployment: labour markets

One of the main institutional factors influencing the labour market consistent with Insiders – Outsiders Theory is the employment protection law, which may make firms more cautious about filling vacancies (Bertola, 1998).

Institutional structure of wage determination is a factor which has a direct impact on wages. Within every country there is a variety of structures. In some sectors wages are determined more or less competitively but in others, wages are bargained between employers and trade unions at the level of the establishment, firm or even industry (Nickel, et al., 2002). The outcome depends on union power in wage bargains, union coverage or unionisation and the degree of coordination of wage bargains. In general, the greater the union power and coverage, the greater the upward pressure on wages can be expected and hence the raising of equilibrium unemployment. As the authors note, it may be argued that "wage setting institutions impact directly on wages without influencing the efficiency of job matching or the separation rate into unemployment." However, where union coverage is high, coordinated wage bargaining leads to lower unemployment. (Calmfors, et al., 1988). The importance of collective bargaining has been also emphasised by Blanchard (2007). He claims that labour markets are determined by the nature of collective bargaining and by the degree of trust between

social partners (labour, firms, and the state). "Countries with high reported trust between labour and firms have had a lower increase in unemployment than others, and the correlation appears to reflect in part causality."

The final group of variables which directly impacts on wages, presented by Nickel et al. (2001) are connected with real wage resistance. In this case while workers attempt to sustain recent rates of real wage growth, the rate consistent with stable employment may shifts unexpectedly. In the case of an adverse shift in the terms of trade, real consumption wages fall if employment is not to decline. If workers continue to bargain rates of real wage growth, which take no account of the movement in the terms of trade, this will tend to raise unemployment. Exactly the same situation takes place if there is an unexpected fall in trend productivity growth or an increase in labour taxes. If labour taxes (payroll tax rates plus income tax rates plus consumption tax rates) go up, the real post-tax consumption wage falls if real labour costs per employee facing firms are not to rise.

Any resistance to this fall will provoke a rise in unemployment. This fact suggests that increases in real import prices, falls in trend productivity growth or rises in the labour tax rate may lead to a temporary increase in unemployment.

Botero and others (2004) offers a comprehensive empirical investigation of the impact of labour market institutions, including employment regulation, collective relations, and social security laws in 85 countries. They found that ..."the political power of the left is associated with more stringent labour regulations and more generous social security systems, and that socialist, French, and Scandinavian legal origin countries have sharply higher levels of labour regulation than do common law countries.

(...)Heavier regulation of labour is associated with lower labour force participation and higher unemployment, especially of the young."

Consistent with this, OECD (1994), Layard, Nickell and Jackman (1991), Nickell (1997), Nickell and Layard (1999) find that high unemployment is to a considerable extent caused by job protection, labour taxes and trade union power. In addition, Oswald (1996, 1997a, 1999) and OECD (1999b) focus on one core indicator of wage 'inflexibility', which is inversely proportional to unemployment.[1]

Another factor which influences unemployment is product market and capital market competition and integration (Blanchard and Philippon, 2005). However, the impact of the changes in the nature of product market competition is again mediated through the behaviour of the institutional labour market participants. In particular, in the last 40 years European countries have experienced a steady increase in both product market competition and capital mobility. According to the authors:

..."these changes are likely to increase efficiency and output in the long run, but it may take time for economic actors to fully understand them and adapt. In the presence of collective bargaining and slow learning by unions, these changes can generate first a rise, then a decline in unemployment."...

Higher competition, coming from product market deregulation, is unlikely to generate an increase in unemployment, even if unions do not understand the change. Higher capital mobility, on the other hand, is likely to lead to lower unemployment if unions understand the change, but to higher unemployment if they do not. As the process of

[1] According to Layard, Nickell and Jackman (1991), unskilled labour markets have inflexible wages and elastic demand. The more flexible wages are and the less elastic is demand, then the labour tax rate should be higher.

understanding these changes is different in different countries, it can explain cross-country differences in the evolution of unemployment.

2.3.6 Labour Market Policies: passive policies – unemployment benefits

The unemployment benefit system directly affects the readiness of the unemployed to fill vacancies. The important aspects are: the level of benefits, their coverage, the length of time for which they are available and the strictness with which the system is operated. Related to unemployment benefits is the availability of other resources to those without jobs (Phelps, 1994). According to Layard, et al. (2005), the structure of unemployment benefits has an influence on equilibrium unemployment. This has been confirmed by many researchers. Cross-country macro evidence is provided by Scarpetta (1996), Nickell and Layard (1999) and Carling et al. (1999). In addition, it has been shown that the shorter the duration of benefits, the shorter the unemployment duration period (Katz and Meyer, 1990). The evidence based on research on Portugal and Spain from Bover (2000) suggests that the unemployed not covered by any benefits exit unemployment much faster than those covered by some assistance.

Countering this - Blanchflower (2001) argues that despite some evidence that generous benefits can increase unemployment, there is a weak correlation in the data supporting this fact. The proof of this theory is the case of Italy which has high unemployment and low benefits.

2.3.7 Comparative institutions and unemployment: Europe versus the US

Much of the discussion of the impact of institutions on unemployment centred on the comparison between Europe and the US. The unarguable fact is that unemployment in Europe is higher than in the US. Western Europe has more job protection, higher

unemployment benefits, more union power and a more generous welfare state. Blanchard and Wolfers (2000) argue that "the interaction of shocks and institutions does a good statistical job of fitting the evolution of unemployment both over time and across countries".

However, Blanchflower (2001) questions this view because it is obtained in "an over-fitted model -few data points and lots of variables- and the results appear to be driven by the cross-section variation rather than by any time series changes." In many OECD countries we could notice a rise in unemployment, which was accompanied by the decrease of unemployment benefits and union power weakening. (Blanchflower, 1996).

Blanchflower (2001) argues that recent research suggests that supply shocks caused by changes in commodity prices in general and the oil price in particular are some of the causes of movements in unemployment.

Blanchard and Wolfers (2000) emphasize that labour market rigidities cannot explain why European unemployment is much higher than US unemployment because the institutions generating these rigidities were much the same in the 1960s as they are today. In the 1960s, unemployment was much higher in the United States than in Europe, which in their eyes excludes this theory from being universal and true.

2.4 Medium run unemployment, wage curve, regional heterogeneity of unemployment

2.4.1 Medium run unemployment

Blanchard and Wolfer's (2000) criticism just discussed is related to the observation that the dichotomous short-term v. long-term distinction may be too crude to

approximate the real dynamics well. Accordingly, the discussion on determinants of unemployment shifted from the dual distinction between the short-run fluctuations and long-run equilibrium rate. In particular, Coakley, et al. (2000) explain the nature of medium run unemployment dynamics. There are two competing schools of thought on this subject. Authors call them the persistence and the structuralist schools, respectively.

The persistence approach emphasizes the role of slow dynamic adjustment towards the natural rate of unemployment. In this view unemployment is caused by transitory nominal and real shocks, where slow adjustment is usually referred to as persistence or hysteresis. The latter is seen as a failure of a system subjected to an external influence to return to its initial conditions after the influence has been removed.[2] An economy experiences hysteresis, when its long run equilibrium depends on the path it follows in the short run. The concept of hysteresis in unemployment was first introduced by Phelps (1972) and later used by Blanchard and Summers (1986). It denotes situations where transitory shocks have permanent or very persistent effects.[3]

According to Burda (1995), causes of long-term persistence or hysteresis in labour markets are controversial. Hysteresis may be caused by several institutional factors. Among them he enumerates social insurance and unemployment insurance, which through the interaction with tax system can depress the demand for labour by firms. Other factors leading to hysteresis might be labour force status or fixed costs

[2] For a review on the subject see: Franz (1990)

[3] Hysteresis in the labour market would arise if the natural rate U* depended on past unemployment U. A change in aggregate demand would first influence unemployment by causing U to deviate from U*, but then would have a persistent effect on unemployment as U* changed. A recession that raises unemployment effects economy in a permanent way and thus U* is higher even after the initial shock that caused the recession has disappeared. (Ball and Mankiw, 2002)

associated with change of occupation. Burda (1995) also delivers an alternative interpretation of hysteresis, which is the existence of multiple equilibria, as the unforeseen shocks move the economy from one equilibrium to another.

ILO (1995) opinion on this matter is consistent with the hysteresis hypothesis:

"The foregoing review of the evidence suggests that labour market rigidities have not been an underlying cause of past labour market performance. Labour market performance has deteriorated since the first oil shock irrespective of differences in labour market regulation, suggesting that a more fundamental common factor (or factors) has been at work." (1995, p.20)

In contrast, the structuralist school theory is more interested in movements or shifts in the natural rate due to the interplay of changes in real macroeconomic variables and institutions. According to the persistence school, temporary shocks such as cyclical movements in unemployment often constitute the cause of medium-term unemployment.

In the view of the structuralist school, the main variables affecting short-term and medium-term unemployment are the natural rate and the associated equilibrium. They have derived a moving-natural rate theory of changes in actual unemployment (see Pissarides, 1990; Phelps, 1994).

2.4.2 Long-term unemployment

Long-term unemployment (unemployed over 12-month-period) represents one of the most persistent, and also in quantitative terms, serious, social issues facing many industrialized economies. It may lead to hysteresis effects (see below and 2.4 above for more details). As reported by Layard, et al. (1991), its incidence is correlated with

the unemployment levels. With the rise of unemployment, the share of long-term unemployed increases as well.

Unemployment induces a process of de-motivation or habituation, leading to reductions in job search activity and therefore to a declining probability of leaving unemployment. Furthermore, long-term unemployment leads to skill deterioration and loss of work habits. This process downgrades the value of the worker on the labour market. Employers may use unemployment duration as a signal for the quality of the worker and therefore rank candidates for work according to their unemployment duration (Blanchard, 1991 and Blanchard and Diamond, 1994, Mickiewicz and Bell, 2000). Long-term unemployed are unable to compete with short-term unemployed, due to a lack of downwards pressure on wages. Long-term unemployment is connected to hysteresis effect. (see 2.1 for more details).

2.4.3 Labour market immobility

Another cause of unemployment might be labour market immobility of the population and the role of home ownership which seem able to explain at least some of the upward trend in unemployment.

Oswald (1997a) suggests that the large rise in European home ownership may be a factor causing the rise in unemployment. European governments have made concerted efforts to reduce the size of the private rented sector and to increase home ownership (Oswald, 1997a). This fact immobilizes homeowners, partly because they find it much more costly than private renters to move around. Unemployment rates have grown most rapidly in the countries with the fastest growth in home ownership. This was the case in Spain which has the highest unemployment and the highest rate of home ownership and Switzerland the lowest unemployment and the lowest rate of home

ownership. However, the UK, which also has a high level of home ownership, did not suffer from high unemployment problem. One of the reasons for that might be the flexibility of the UK labour market and its lack in Spain.

Yet, in the 1950s and 1960s the US had the highest unemployment and the highest rate of home ownership (Oswald, 1999). Moreover, high home ownership rates block young people's ability to enter an area to find a job. Oswald (1999) has suggested some links explaining this correlation. First, there is a direct effect from home ownership. Selling a home and moving is expensive, thus many homeowners who lose their jobs are willing to commute to find work instead of moving. Hence owners are less mobile than renters, and therefore more vulnerable to economic downturns in their region.

Moreover, in such a situation, when people are not eager to move in order to find a suitable job, workers do jobs for which they are not ideally suited. This inefficiency raises costs of production and lowers real incomes in a country. Prices thus have to be higher, and real wages lower, than in a more mobile society and jobs get destroyed. (Nickel, et al., 2002).

2.4.4 Wage Curve and spatial distribution of unemployment

The discussion of home ownership is one important example of how the search for better modelling of microeconomic foundations of unemployment led to the focus on spatial effects. I now discuss the spatial aspects in more detail. In particular, the discussion on the relationship between the level of unemployment and the level of wages initiated with the Philips Curve is seen from a new angle, once the spatial perspective is introduced. Blanchflower and Oswald (1994) found a spatial link

between these two variables based on microeconomic evidence from more than a dozen countries. Holding other factors constant, the relation says that in the regions with higher unemployment, wages will be lower. The relationship constitutes the wage curve.

According to the wage curve theory, a worker employed in an area of high unemployment, will earn less than an identical individual working in a region of low unemployment. Card (1995) states that: "the tendency for the wage curve to show up for different kinds of workers, in different economies and at different times, suggests that the wage curve may be close to *an empirical law of economics*." (p. 27).

Blanchflower and Oswald (1995) provide the comparison between the Wage Curve and the Philips Curve. The Philips Curve links the rate of change of pay to the aggregate unemployment rate. On the other hand, the wage curve links the level of pay to the local unemployment rate. The Philips Curve concentrates on the effect of aggregate unemployment and the wage curve on the local unemployment. The Philips Curve is estimated on time-series macroeconomic data and the wage curve on pooled cross sections of microeconomic data.

In their book, Blanchflower and Oswald (1994) have challenged the empirical foundations of Philips Curve. They argue that "microeconomic evidence of a low auto-regression coefficient in real wage regressions invalidates the macroeconomic Philips Curve". However, Whelan (1997) demonstrates that constant prices and adaptive inflation expectations are sufficient to derive the accelerationist Philips curve. They claim that it is not necessary to make Blanchflower's and Oswald's assumption on auto-regression coefficient in real wage. His argument is that "macro-level real wages will not display the dynamics of micro-level real wages." Therefore, micro-

level dynamics of real wage may be irrelevant to prove the validity of the accelerationist Philips curve and NAIRU. Similarly, Blanchard and Katz (1997) challenged this conclusion and defended the traditional accelerationist Philips curve. They presented evidence that provided a good empirical fit between the change in real prices and unemployment rate.

On balance, the contribution by Blanchflower and Oswald (1994, 1995) does not invalidate the earlier theory, yet introduce an important new dimension, which is also important from the policy point of view, as regional differences are a point of concern for policy makers.

2.4.5 Regional labour market dynamics

Parallel to the focus on the static aspect of regional unemployment, the regional dynamics was first analysed by Blanchard and Katz (1992) who examined regional evolutions in the US. They were followed by Decressin and Fatas (1995), who compare the results obtained for European states to those obtained from a similar analysis of region-specific (state-specific) evolutions in the US (Blanchard and Katz, 1992). They examine whether labour market disturbances are distributed less symmetrically across the regions in Europe and whether they trigger less interregional migration than in the US. The aim of their research is to analyze to what extent regional employment dynamics are common to all regions in Europe and to all states in the US. It finds that a larger proportion of movements in employment growth are common to all US states than to all European regions. In their study of the adjustment mechanisms to a typical region-specific shock, they show that for Europe, in the first three years, most of the shock is absorbed by changes in the participation rate while, in the US, it is immediately reflected in migration. In both cases, the unemployment rate

plays a small role suggesting the presence of natural unemployment rates at the regional level (Decressin and Fatas 1995).

In chapter 4 I analyze developments of regional labour markets in Poland and Spain since their transition to democracy and the open market. I concentrate on investigating the extent to which labour market shocks are shared by all regions and how regional employment, unemployment and labour force participation adjust to labour demand shocks which are region-specific. Therefore, it is also useful to discuss briefly the contributions that focus on Spain.

Spanish regional labour market dynamics has been investigated by Jimeno and Bentolila (1998). They examined the degree of persistence of regional relative unemployment. Jimeno and Bentolila (1998) have built a theoretical model to explain the role of migration, labour force participation, and real wage flexibility at the regional level, in determining such persistence. The model is used to account for the observed degree of persistence of regional relative unemployment in Spain, as compared to the US and the European Union, also providing new estimates on real wage flexibility in Spanish regions.

The research carried out by Jimeno and Bentolila (1998) and also Decressin and Fatas (1995) demonstrates that European regional relative unemployment rates – with respect to the average European unemployment rate are scarcely persistent. So, although Eichengreen (1990) finds that the speed of adjustment of national unemployment in nine EU countries to the average in this area is about 25 percent lower than in US states, Decressin and Fatas (1995) find that the persistence of regional relative unemployment is actually lower in Europe than in the US. According to Blanchard and Katz (1992), regional persistence is low in the US because workers

migrate in response to region-specific shocks. In the European case, the low persistence results, according to Decressin and Fatas (1995), from large movements in and out of the labour force in response to changes in regional circumstances. Jimeno and Bentolila (1998) also highlighted the role of wage rigidity and low migration as the main factors introducing a wedge between persistence at the two levels. According to them:

..."Increased wage flexibility will, under some conditions, lead to less unemployment persistence. Since there are reasons to believe that wage flexibility is higher at the national than at the regional level see below, regional relative unemployment would tend to be more persistent than aggregate unemployment. However, even if wages are rigid, as long as interregional migration is very elastic as in the US or regional labour force participation is highly cyclical as in the EU, the persistence of regional relative unemployment will be low. Wage flexibility, migration, and participation interact in interesting ways. we can show that the reduction of unemployment persistence due to increased wage flexibility will be higher the higher is the elasticity of either migration or participation to relative wages, but it will be lower the higher is the elasticity of these two variables to relative unemployment. Therefore, establishing which mechanisms induce people to migrate and participate in the labour force is important for the effectiveness of policies aimed at achieving lower regional unemployment persistence through higher wage flexibility."...(p.2)

This contribution is important, as it demonstrates that the relationship between the macro level and regional level labour market variables is not trivial, and some aggregate level rigidity may in fact lead to higher oscillations at the regional level.

2.4.6 The (Augmented) Matching Function Approach

The modern modelling of the labour market dynamics relies on the matching function approach. The assumption of the model is that it takes time to reallocate and to match workers and jobs. Also, there is an assumption of continuous job destruction and job creation, layoffs and new vacancies. The model makes predictions about how different shocks affect unemployment, vacancies and wages. It enables the modelling of frictions with the minimum of added complexity. It captures the effects of frictions in the economy on equilibrium outcomes in terms of a small number of variables and with the reference to the source of the friction (Petrongolo and Pissarides 2001).

As described by Puhani (1999), new work contracts (matches) are the outcome of a complex search process, in which workers look for adequate jobs and firms look for adequate workers. The matching function is a macroeconomic concept which aims to summarise the outcome of this complex reality. This is done by relating the hiring of workers to a minimum set of determining variables. The basic principle of the matching function is to model matches of unemployed workers with vacancies as outcomes of a production process which has stocks of unemployed and vacancies as its main inputs (Blanchard and Diamond, 1989; 1990; Pissarides, 1990).

Pissarides (1990) developed a macroeconomic model of equilibrium unemployment with the matching function as a main ingredient to it. In Pissarides' (1990, Chapter 4) model, constant returns to scale in the matching function are assumed to ensure the uniqueness of equilibrium. There is empirical evidence showing that the constant returns to scale matching function of a Cobb-Douglas form is an appropriate model with convincing explanatory power for many economies. The matching function has thus become an attractive tool for analysing labour market flows empirically.

As also explained by Puhani (1999), the microeconomic foundation of the matching function is that both workers and firms have to search for their appropriate match in a world of uncertainty. The inclusion of uncertainty is an extension to the standard neoclassical model where all information in the economy permeates instantaneously through to all agents. With uncertainty and transaction costs, a worker will receive a number of job offers in a specific interval which is drawn from some known or unknown distribution. He or she then has to decide whether to accept that offer or wait for a better one to arrive. Similarly, a firm with a vacancy will receive a number of job applications and has to decide whether to employ somebody from among the applicants or whether to leave the vacancy open and wait for a more qualified worker to apply for the job. Clearly, the more unemployed people and vacancies there are in the economy, the more contacts will be established between workers and vacancies. As a consequence, the expected number of matches will increase.

A weakness of the matching function concept is that it does not consider job-to-job transitions. The assumption is that vacancies are filled only with unemployed people. However, there is evidence that job to job flows are important. For example, in Hungary and the Czech and Slovak Republics many workers move from the public to the private sector without any intervening unemployment spell (Boeri, 1994a; 1994b). This also seems likely for Poland. However, as data on job-to-job transitions are not available, previous empirical implementations of the matching function had to exclude this phenomenon.

2.5 Active and passive labour market policies

The dynamic approach to unemployment and focus on transfers between the labour market states is a natural approach to analyse the active labour market policies that aim ot facilitate the transfers from unemployment into employment. In this section I will discuss the concept of labour market policy and empirical results on its effectiveness. Government policies should be concentrated on increasing the readiness and ability of unemployed to take up new jobs, through the developments of ALMPs (Layard, et al., 2005). However, in order to be effective, they need to be well designed. Otherwise, they can even have a negative effect on unemployment, as suggested by Nickell (1997), Scarpetta (1996), Nickell and Layard (1999). The evidence of the positive influence of ALMPs can be found in Blanchard and Wolfers (2000), Katz (1998), Martin (2000). The results of my own research will be presented in Chapter 5.

ALMPs might have an important role to play in combating unemployment in general and especially long-term unemployment. These policies are meant to boost outflow rates from unemployment, in particular from long term unemployment, thus raising labour turnover and improving the performance of the labour market. Active measures in the labour market are designed to introduce an early identification of needs of unemployed persons and to promote programmes leading to the improvement of human resources quality (training courses, practical training of a vocation, and subsidised employment). This includes a requirement to conduct regular research and analyses of the effectiveness of individual programmes. (Sztanderska and Piotrowski, 1999).

Some of the most commonly used ALMPs are training, intervention works and public works. Puhani (1999) mentions that policies aimed at training and re-training are designed to solve skill mismatch in the labour market. Subsidized employment in private and public firms and direct public job creation are instruments used in order to rebuild human capital of the long-term unemployed. Intervention works is a programme that gives wage or jobs subsidies in the amounts of the level of unemployment benefit. These wage subsidies are given to firms in the private or public sector if they hire an unemployed person. Public work jobs are jobs created by the government, in particular by the municipalities, targeted mainly at the long-term unemployed.

According to a study by Meager and Evans (1997), schemes that have the best employment effects are those which provide experience close to working life (e.g. schemes run by or involving enterprises).

Most active labour market measures focus on the reintegration into the labour market of people who have already become long-term unemployed. The policy literature suggests that policies, rather than intervening to improve the labour market position of the long-term unemployed, should be focusing on preventing people from becoming long-term unemployed, by identifying and taking preventive actions towards those groups which are at risk of becoming long-term unemployed. A preventative strategy may be for example, counselling and advice offered by specialized agencies.

The biggest threat to the long term unemployed is the fact that their skills may begin to deteriorate and lose their relevance to changing employer requirements. As for the social consequences of this phenomenon there is the loss of motivation and self-

confidence of unemployed persons, and following this they may be the subject of a range of physical, emotional and health problems, with the associated costs to themselves and society. However, the major problem is that there is no reliable method of identifying at an early stage those individuals with a high risk of becoming long-term unemployed. Such preventive strategy is very difficult to pursue and economists such as Meager and Evans (1997), show considerable scepticism, that an effective early identification process can be found.

The impact of ALMP has also been compared with the impact of passive policies. In particular, the design of unemployment benefit schemes has been criticized, as these schemes have been created at a time when high and structural unemployment did not exist. "They aimed at providing insurance against the risk of temporary income loss caused by involuntary lay-off. They were not designed to deal with the persistent income loss facing the current jobless. (...) there is a widespread belief that it is partly the benefit scheme itself that causes a 'culture' of benefit dependency and therefore persistent unemployment." (Cockx, 1998).

Therefore, in recent years, it has become a common theme in the political debate on remedies to tackle the unemployment problem, that governments should shift the balance of public spending on labour market policies away from passive income support towards more active measures designed to get the unemployed back into work.(Martin, 1998).

In general, Meager and Evans (1997) developed a categorization of the various policy measures at a macro level as follows:

- "Demand-side-oriented approaches, which attempt to increase the volume of labour demand or to bias that demand towards the recruitment of the long-term unemployed. This category includes measures which do this *directly* (e.g. through the creation of jobs for the long-term unemployed), as well as those which do it *indirectly* (e.g. through offering subsidies or incentives to employers to recruit the long-term unemployed;
- Supply-side-oriented approaches, which attempt to improve the chances of the long-term unemployed on the labour market, by increasing their skills and human capital (e.g. through training), their ability to access available jobs, or their motivation for job-search (through advice, counselling and assistance with job search), or indeed their willingness to take up certain job opportunities (through benefit conditionality, reduction in the 'benefit trap' *etc.*)"

Furthermore, they break down the range of measures into more detailed categories.

- Incentives or subsidies for employers (these include demand-side measures, which tackle job creation indirectly, through subsidies or other incentives to employers to encourage them to recruit the long-term unemployed).
- Direct employment/job-creation schemes (includes initiatives which create employment directly for the long-term unemployed). They offer work experience, with participants normally undertaking socially-useful activities. Among this category of measures they include traditional job-creation schemes, which create (usually short-term) jobs in the public or quasi-public sectors for the unemployed and small scale, often local or community-based

programmes aimed at generating employment in the 'intermediate labour market'.

- Work-sharing/reducing labour supplies (tackles unemployment from the supply-side, and tend to be focused on unemployment in general, rather than long-term unemployment). Within this group we can identify:
    - Subsidies to those in employment to reduce their labour supply, to share work with the (long-term) unemployed
    - Subsidies to the (long-term) unemployed to reduce their labour supply, and in the extreme case, to become economically inactive (e.g. by early retirement).
- Vocational training-based schemes account for an extremely high proportion of active labour market policy expenditure for the long-term unemployed. They are supply-side oriented, and may be classroom-based, and/or may involve job training in a work placement.
- Job-search training, counselling (a measure already introduced by many countries). Are designed to improve participants' employability and 'motivation' and the 'work attitudes' of the long-term unemployed.
- Tackling information deficits and labour market "friction" (delivered through the public employment services (PES), aim to address market failure and information deficits in the job-hiring process.
    - targeted job-matching or broking services

- subsidised short-term placements with employers.

- Incentives or subsidies to individuals include supply-side measures to reduce the costs to the job-seeker in finding, accepting or keeping a job. Among them the following can enumerate:
- Provision of 'in work benefits', either to all low paid workers, or to newly employed entrants from unemployment.
  - Subsidies to the individual unemployed person to support the costs of job-related training/re-training/education.
  - Subsidies to offset the individual's costs of finding and entering a job (e.g. expenses incurred in job search, such as travel-to-interview expenses);
  - Subsidies to support unemployed people becoming self-
- Measures aiming to 'activate' the unemployed
  - Supply side approaches aiming to reduce the 'reservation wage' of the unemployed, by providing a disincentive for them to refuse low-paying jobs. Often works through a time-limit of the receipt of unemployment benefit.
  - 'Workfare' approaches (used in the USA and Australasia), in which the unemployed are required to work as a condition for the receipt of unemployment or social security benefits.

2.5.1 Studies on policy impact based on Augmented Matching Functions for Transition Economies

The applied literature relying on augmented matching functions is typically focused on the estimates of the effects of active labour market policy (ALMP) programmes. So far it has been mainly concentrated on transition economies. There are studies on the

Czech and Slovak Republics (Burda and Lubyova, 1995; Svejnar, et al., 1995; and Boeri and Burda, 1996) and there is also some evidence on Poland in Lehmann (1995), Góra, et al. (1996), Puhani and Steiner (1996; 1997), and Kwiatkowski and Tokarski (1997).

The results of the estimates of the effectiveness of ALMPs from augmented matching functions in Central Europe are mixed. Some researchers suggest a significant positive effects (Burda and Lubyova, 1995; Svejnar, Terell, and Münich, 1995; Boeri and Burda, 1996; Kwiatkowski and Tokarski, 1997), while others like Lehmann (1995), Góra, Lehmann, Socha, and Sztanderska (1996) and Puhani and Steiner (1996; 1997) claim that these measures have no impact at all. Kwiatkowski and Tokarski (1997) find negative effects of public works and loans to enterprises on outflows from unemployment.

Puhani (1998) in his research of the effectiveness of ALMP evaluated by matching function and traditional econometric modelling in the form of duration models with unobserved individual heterogeneity provided evidence that training programmes increase the re-employment chances of the unemployed. On the other hand, intervention and public works programmes have a negative employment effect in the medium run. According to the author, intervention works prolong unemployment. There are several explanations of these findings. One of them is the fact that a lack of qualification is one of the main reasons of unemployment.

Training may work better because it addresses the cause of the problem. Another explanation is based on institutional factors. In the 1990s participation in intervention or public works renewed the entitlement period to unemployment benefits to another full term of 12 months. This in turn allowed many people to move between the work programmes and unemployment benefits. In addition these finding can be explained

by stigma effects of works programmes related to employers having bad opinions of works programmes, and consequently seeing participation in such a programme as a negative indication of a employee's productivity. Policy conclusions made by Puhani suggest that the policy makers should increase the expenditure share of training in active labour market programmes and should separate unemployment benefit entitlement from participation in an active programme.

The results of the regional analysis of the Polish case by Puhani (1999) based on data from 1992- 1996 show that the costs involved in reducing unemployment through training are higher in the industrial voivodeships (between € 500 and € 900), than in the agricultural ones (around € 100). He found no effects of training in the modern voivodeships. He could only find some positive training effects when using register data. According to model specifications that use Polish Labour Force Survey (PLFS) data, the results suggest that training has no effect on the outflows from unemployment.

The results of the research presented in Chapter 5 indicate that some forms of ALMPs are effective (public work and a weak effect of training) and other have a negative effect (intervention works).

2.6 Conclusions

The chapter has introduced a literature review of theories of unemployment, a discussion around Philips Curve, determinants of equilibrium rate of unemployment, regional heterogeneity of unemployment, labour market policies and empirical evidence on their impact on unemployment. I have highlighted the institutional determinants of unemployment and concentrated on the discussion around the regional

labour market dynamics and the matching function approach. This provides the background for my empirical analysis of the Polish and Spanish labour market and the analysis of the effectiveness of the ALMPs, which follow in Chapter 5 and 6.

Chapter 3 Review of the labour market in Poland

This chapter reviews the Polish labour market characteristics, developments and trends. First, it introduces the labour markets in transition economies, followed by an overview of the transition of the labour market in Poland, the resulting labour market characteristics in the country and causes of unemployment. In this context it describes the existing labour market policies and the social security system in Poland and suggests possible policy improvements. The latter links with the empirical chapters, which follow.

3.1 Labour markets in Transition Economies

The transition from a centrally planned economy to a free market economy in Central and Eastern Europe has caused a rapid increase in unemployment, which replaced labour shortages and labour hoarding. The emergence of unemployment in the region was inevitable due to both macro and micro factors. The first group of factors includes the short-term impact of output collapse (where the state sector declined rapidly and the private sector took time to grow) and a medium-term impact of an outdated institutional framework, which was reformed slowly. Within the micro factors, the most important are the skills mismatch, lack of adequate training, lack of mobility and effective housing market.

Expressing the same ideas in a slightly different way one may say that unemployment has been due to the fact that the process of transformation from central planning to a free market has still not been concluded and the reallocation of resources from an inefficient allocation of labour and capital to more efficient one is still not in place.

Related to this, there is a legacy of unemployable workers (either with the wrong skills or located in inadequate regions). Furthermore, the reason behind high unemployment might be the choice of wrong institutions, which increase the long term equilibrium rate of unemployment (Faggio, 2007): not just that the initial institutional setting was not conducive to the efficient labour market outcome, but also the paths of institutional change were not necessary converging on efficient solutions.

Both sectoral change and shift in demand for skills can be described as restructuring[4]. The communist countries were characterized by a very high share of industry in employment, which as a consequence of transition became the subject of a far-reaching reorganisation. Rising unemployment was one of results of deindustrialisation, especially due to skill mismatch and inadequate job creation in the "new" sectors (Mickiewicz and Zalewska, 2006).

Some of the most important strengths of the old system were the facts that it offered job security, guaranteed essential social benefits, and labour force participation was very high. On the other hand, the system was characterized by a low productivity rate of growth. Once this job security was removed, and both possibility and incentives for restructuring were introduced, the unemployment emerged (Jackman, 1994).

The causes of emerging unemployment can vary in intensity through time and by transition countries, nonetheless we may distinguish the main dimensions of unemployment, which require different policies to fight this phenomenon. In the short to medium term, unemployment is the result of aggregate shocks. Among them, we can enumerate the impact of macroeconomic stabilization, the collapse of central planning arrangements, the fall in aggregate demand and a large increase in the prices

[4] More on deindustrialisation and structural differences in section 3.2 and 3.4.5.

of imported energy and raw material inputs. Because of these shocks, the demand for labour in the country falls, having stronger effects on some particular sectors.

Exposure to modern technology and world trade constitute medium term causes of structural unemployment, which results from sectoral imbalances and restructuring, caused by changes in relative prices. These shocks typically occur during the transformation process, and can be counteracted by labour reallocation throughout sectors, and accompanied by the implementation of active labour market policies (Jackman and Fretwell 1994). Active labour market policies in transition economies have been an integral part of labour market policies, but still remain, relatively under-developed (see section 3.5.2 for more details on active labour market policies).

At the same time, one the most important challenges of the transition included making the labour market more flexible and an improvement of education and training. Both were important for reduction of unemployment (Barr, (1994). Structural unemployment may result from a geographic mismatch between the location of jobs available and the location of jobseekers, or by the gap between the skills possessed by jobseekers and skills needed for the available work places (McConner and Brue, 1995).

An additional complication is that we may face some feedback effects between unemployment and other macroeconomic variables. Some other authors like Boeri (1999) suggest that unemployment growth in transition is, on the one hand, influenced by the speed of the removal of state subsidies, on the other hand, high unemployment may strike back on this speed because of fiscal effects related to the funding of unemployment benefits, with political economy factors eroding the consensus gathered around the reform effort or other mechanisms. Similarly, Aghion and

Blanchard (1994) in their model argue that the basic feedback mechanism raising unemployment is coming from the fiscal side. High unemployment means large outlays to fund unemployment benefits, hence higher payroll taxation. This reduces job creation in the private sector.

In addition to a narrow economic perspective, one needs also to take into account inter-linkages between social and cultural variables and both policies and economic outcomes. Accordingly, a different perspective is taken by Blanchflower (1994), who examined the attitudes of workers in traditional communist societies toward working conditions, wage inequality, the role of unions and the role of the state in determining labour market outcomes. He found that in former communist countries communism left an identifiable common legacy in the labour area. The citizens of former communist countries tend to be less satisfied with their jobs, and are more supportive of state interventions in the job market.

All the above arguments are re-examined in the following section on the Polish labour market situation.

3.2 The transition of the labour market in Poland - an overview

The Polish labour market after the political and economic change in 1989 has gone though an intense transformation. The impact of the transition has translated into change in both the level and structure of employment and the level and distribution of wages (Barr, 2005). Unemployment in Poland emerged at the initial period of its political and economic transformation. In the previous era the problem was a shortage

of human resources, and after 1990, their relative surplus. Unemployment rose from virtually zero to a peak of around 16% at the end of 1993, declining to the level of around 10% in 1998 and since then rising again to the level of 20% in 2004 (GUS, 2005).

Three years after the EU accession (in 2004), the labour market is still characterised by the highest unemployment rate and the lowest employment and economic activity rates among the EU member states.

In addition, the Polish labour market situation is characterised by strong regional differences, the high unemployment of the rural population (see section 3.4.4), high youth unemployment, a high percentage of uneducated people in the population of unemployed, a high percentage of women in the total number of unemployed (see section 3.4.2) and finally significant long-term unemployment (see section 3.4.3).

The main problem for the economy as a whole has been to maintain a high rate of growth and at the same time a high rate of labour productivity growth relative to wage growth, which is a condition for maintaining high employment. However, choosing right policy instrument to affect wage dynamics was not a trivial issue. Sztanderska and Piotrowski (1999) emphasized that in the first stage of transition the restrictive taxation of wage growth proved to be an efficient instrument of anti-inflation policy, but at the same time it made the wage structure more rigid. This instrument was relatively quickly abandoned and has been replaced by collective labour agreements and minimum wage regulations. The taxation of labour, high social insurance contributions and other employers' obligations resulting from the labour law clearly raise labour costs, which is an obstacle to increasing employment and reducing the grey sphere.

In turn, high labour taxation has been one of the factors fuelling the existence of the "grey economy". The latter comprises not only illegal activities but also hidden activities, breaking the law but not infringing the criminal code. It includes companies which are not registered, do not pay obligatory taxes do not reveal all incomes or hire informally. Table 1 provides some estimates on the size of the grey economy in Poland. On average, employment in the grey economy amounts to an additional 15% of GDP. As it is quite difficult to measure it, the data shows the lowest estimates. However, it is considered that its size can amount to even as much as 30% of GDP. (GUS, 2004, Ministry of Labour and Social Policy, 2006). Obviously, the existence of the grey economy may distort the registered unemployment statistics.

Table 1 Size of Grey Economy (GE) in Poland in 1994-2004 (a).

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP with GE (b)	117.2	116.6	115.9	115.2	115.3	114.5	117	116.3	115.3	115.4	114.4
Size of GE as % loss of GDP	17.2	16.6	15.9	15.2	15.3	14.5	17	16.3	15.3	15.4	14.4
GE in Trade	1.9	1.9	1.6	1.5	1.6	1.4	1.3	1.2	1	0.9	1.2
GE in Construction	3	3.1	2.9	2.5	2.5	2.5	2.5	2.4	2.2	2.2	2.1
GE in other services	10.7	10.2	9.8	9.7	9.7	9.2	10.1	10	9.3	9.5	8.4
GE in other sections of economy	1.6	1.4	1.6	1.5	1.5	1.4	3.1	2.7	2.8	2.8	2.7

Source: GUS, National Statistical Office, 2004.
(a) Years 2000-2004 are not comparable with the rest of the series due to an updated of estimates carried out by GUS in 2006.
(b) 100 represents the reported GDP figure. Any excess above the 100 level represents potential gain if the grey economy disappeared.

The process of transformation of the labour market differed in its various stages. One can distinguish five principal stages in labour market transformation after 1989 (Bukowski 2005). Since the beginning of the transition in 1989 until 1994-1995, the employment rate and activity rate were declining while the unemployment rate was increasing. The main reason for this was the process of restructuring in state enterprises and the elimination of labour hoarding which could not be absorbed in the

short term by dynamically emerging private enterprises. During the first two years (1990-1991) unemployment surged at a pace exceeding on the average one million people annually. The subsequent years (1992-1993) were characterised by a further growth of unemployment, although at a slower rate (by approx. 400,000 people annually). In the first quarter of 1994, unemployment encompassed more than 2,950,000 people. In 1994 the employment rate for the group aged 15-64 years was at a level of 58.3%, the activity rate at 68.4% and the unemployment rate at 14.8%.

The second period of labour market transformation was during the rapid economic expansion of 1995-1998. The labour market situation improved significantly. Employment rose and the unemployment rate fell to 10.8%. Unemployment decreased from 2.8 million at the end of 1994 to 1.8 million at the end of 1998. The main area absorbing manpower was the private sector, which at the end of 1990 employed 49% and at the end of 1994, as much as 60.6% of the total working population. The decrease in the unemployment rate between 1994 and 1998 was mainly the result of rapid economic growth but also of legislative changes concerning employment as well as anti-unemployment measures like the definition of the employment contract, a tightening of the unemployment eligibility criteria, setting unemployment benefits as a percentage of the statutory minimum wage, and excluding high school graduates from the list of persons eligible for unemployment benefits (for the details on labour market law reform in Poland please see Appendix 4), as well as a set-back in the restructuring processes in many branches and sectors of the economy (including steel, defence and mining industries).

However, the response of employment to output growth was not proportional, which is consistent with the problem observed in Central and Eastern Europe. Economists

explain this as "productivity catch up", where the increased demand was largely met by increased productivity and only a small increase in employment. (Rashid, Rutkowski and Fretwell in N. Barr, 2005, p.61).

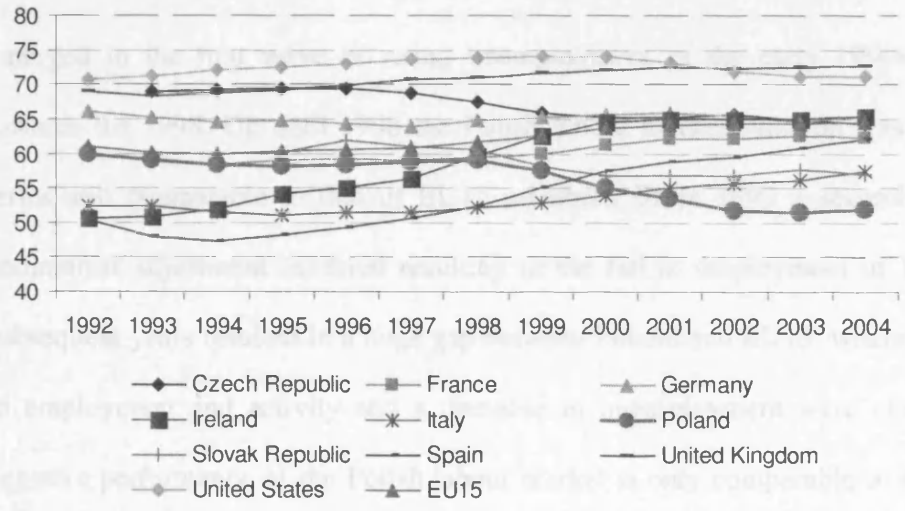
The third stage of changes in the labour market started in late 1998, when the trend was suddenly reversed despite the fact that year-to-year economic growth continued to be high. In 1999 employment fell by almost 700 000 persons, reducing the employment rate by about 4 percentage points to 54.9% and raising the unemployment rate by more than a half to 16.4%. A major factor of deterioration of the Polish labour market in this period was due to the adverse demand shock of 1998, triggered by the Russian financial crisis. However, its impact was amplified due to some structural and institutional factors of the labour market in Poland (see section 3.3). The 2001-2002 slowdown in economic growth caused a further deterioration of the labour market situation. In this period the employment rate fell by 3.5 percentage points while the unemployment rate increased by more than a quarter, reaching 20.1% in 2003. In these years, unemployment rose in total by almost 600 000 while employment fell by about 760 000. It was also accompanied by a faster decrease in the activity rate than in 1999.

The Polish labour market entered a new phase of transformation at the beginning of 2003, since when it is slowly recuperating. The activity rate and employment rate stabilized and the unemployment rate started to decrease. Between 2004 -2007, the registered unemployment rate fell from 20.6% to 11.4%, which is an outstanding improvement both from a European and global perspective. The number of unemployed dropped from 3.5 million at the start of 2004 to 1.45 million in the last quarter of 2007. Foreign migration in search of employment is often cited as the main

cause for the tightening in labour market conditions[5]. However, the migration is not the only reason for shrinking unemployment. Poland in the last three years has experienced very high job creation. Since the start of 2004, the number of employed increased by over 2 million (more than 600,000 in 2007 alone) to 15.5 million, the highest reading in nearly a decade. Roughly 2.2 million jobs were created in industry and services, while employment in agriculture continued to decline. On the downside, the population count of the economically inactive has continued to rise, from 14.1 million in 2004 to 14.4 million at the end of 2007 (Eurostat methodology).

The scale of changes in the Polish labour market after transition is particularly well illustrated by comparing Poland to other EU member states. (see Figure 1 for employment rates in EU and USA and Figure 2 for unemployment rates in the same countries).

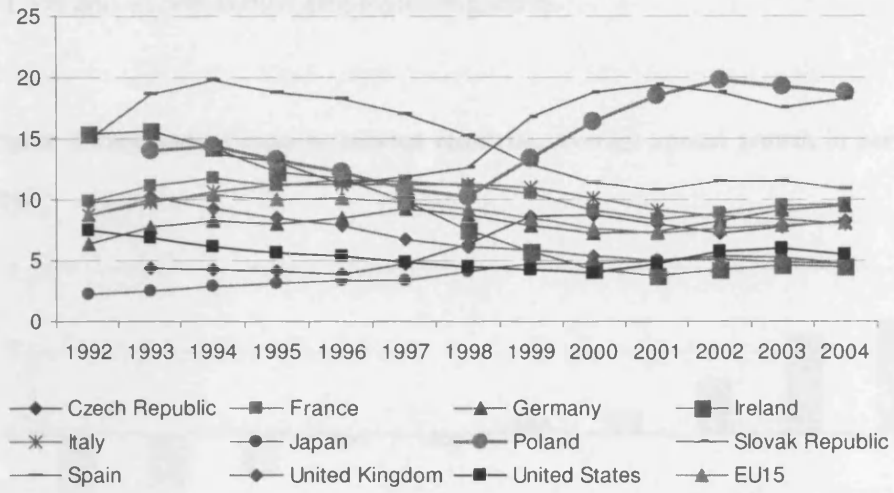
Figure 1 Employment rates in selected countries 1992-2004.



Source: OECD 2005

[5] According to the Ministry of Labour and Social Policy, in the period 2004-2006 around 1mln Poles emigrated to other EU countries.

Figure 2 Unemployment rates in selected countries 1992-2004.

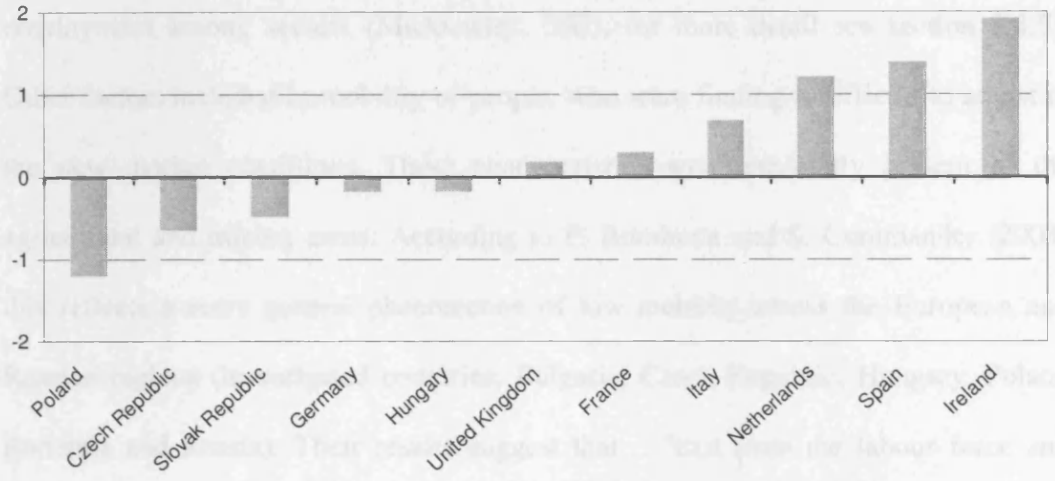


Source: OECD 2005

As described at the beginning of the section, open unemployment under communism was practically non-existent and hence very low at the start of transition. From the beginning of the transition, a major reallocation and inter-sectoral restructuring of labour was needed in order to adjust to a competitive market economy. Some of that emerged in the first wave of rising unemployment in the early 1990s and eased towards the 1998. Up until 1998 the Polish labour market situation was in nominal terms still comparable to that of EU15 members. From 1998 a second-stage post-communist adjustment occurred resulting in the fall in employment in 1999 and in subsequent years resulted in a huge gap between Poland and EU15, where an increase in employment and activity and a decrease in unemployment were observed. The negative performance of the Polish labour market is only comparable to the situation in the Slovak Republic, however in Slovakia despite the high unemployment rate, the employment and activity rates are higher than in Poland. Figure 3 presents annual employment growth in the selected countries in the period of 1991-2004. Poland is the

worst performer with a rate of -1.2% and Spain with Ireland the best performers with +1.4% and +1.9% annual employment growth.

Figure 3 Employment rates in selected countries. Average annual growth in percentage, 1991-2004.



Source: OECD 2005

At the time of writing (mid 2008), despite the improving situation reflected in a fall in unemployment, it will take many years before the labour market situation becomes comparable to that of EU15. Meeting the Lisbon goal of 70% employment rate for the age group between 15-64 years, is still a distant goal.

3.3 Causes of unemployment in Poland

Thus, as discussed, Poland experienced a sharp increase in unemployment after 1989. A decline in the number of people employed in the state economy sector was triggered mainly by the processes of ownership transformation, the restructuring of certain areas of the economy, organisational changes in enterprises and new technical and technological developments. Accordingly, in the initial period, unemployment had a

transitional character, being affected by elimination of labour hoarding and the intensity of the sectoral demands shocks (transition crisis). However, it was later transformed into structural unemployment, characterised by a high level of long-term unemployment and major regional disparities. One of the main factors causing this situation were lack of skills or a skills mismatch for the labour force due to changes in employment among sectors (Mickiewicz, 2003, for more detail see section 3.4.5). Other factors included immobility of people, who were finding it difficult to adjust to the new market conditions. These characteristics were especially present in the agricultural and mining areas. According to F. Bornhorst and S. Commander (2004) this reflects a more general phenomenon of low mobility across the European and Russian regions (investigated countries: Bulgaria, Czech Republic, Hungary, Poland Romania and Russia). Their results suggest that ..."exit from the labour force and hence high non participation rates are features common to regions with high unemployment. Wages, although responsive to regional disparities, only partially help to accommodate shocks. Lagged employment creation has as yet not helped equilibrate unemployment over regions, leaving depressed regions persistently lagging behind. Regional mobility, even though it seems to be driven by economic considerations, remains very low." ... (page 2). There was very limited evidence of other equilibrating mechanisms, which would lower regional employment imbalances and their persistence. They demonstrate that exit from the labour force and high non participation rates are common to regions with high unemployment. I will explore this further in Chapter 5.

As discussed in the previous section, the economic recovery of mid 1990s contributed first to the stabilization of the unemployment rate and only later to a certain decline,

supported in part by restrictions in national unemployment benefit schemes (see Appendix 4 for more details). As mentioned earlier, the largest part of the total fall in employment and increase in unemployment occurred in two phases. According to Bukowski (2005), the different character of economic slowdown in these two periods suggests that a likely cause of the changes in the Polish labour market after 1998 were, apart from structural causes, brought about by two adverse shocks which affected the Polish economy. The first shock was caused by a short-term breakdown of product markets especially in export, which resulted in a certain fall in investment and in labour demand (caused directly by an exogenous, transitory demand shock resulting from the Russian financial crisis). As a result the Polish economy experienced a fall in aggregate productivity, and subsequently a breakdown in investment, a curb on wage increases, and a fall in consumer demand.

The second shock was due to a slowdown of economic growth in 2001-2002, which reduced capital productivity. According to Bukowski (2005), another argument in favour of this interpretation is the finding that the deterioration of the labour market indicators in 1998 was not limited only to Poland, whereas the slowdown of growth between 2001-2002, even if noticeable also in other Central European countries (and in EU15 as well), was nowhere as deep and enduring as in Poland. At the same time countries such as Lithuania, Latvia, Estonia and Slovakia experienced changes of a very similar nature. As mentioned by the author, in Poland between 1998-1999 there were no institutional or internal economic changes which could have triggered this shock. The state deficit rose from about 2.6 percent of GDP to 3.2%, interest rates fell nominally by about 7 percentage points and in real terms by about 3 percentage points, state revenue in both years slightly exceeded 41% while expenditures rose, increasing deficit. Thus, similarities of changes in Central Europe point to an adverse supply

shock, connected with the financial crisis in Russia in mid-1998. Poland, unlike other Central European countries with the exception of Slovakia, experienced a significant increase in structural unemployment and suffered from strong unemployment persistence.

3.4 Labour market indicators and sectoral reallocation

The transformation of the system in Central and Eastern Europe has influenced and changed the composition of employment in these countries, including Poland. As indicated by N. Barr (et al. 2005), the changes occurred along four dimensions: industry and agriculture to services; public to private sector, permanent to more flexible contracts; formal to informal sector.

According to the World Bank study on Poland (2001) the rates of job creation and job destruction have been relatively high in Poland, especially at the initial stage of the transition in early 1990s, and again, after a temporary decline, in the late 1990s. Unemployment resulted from an acceleration of job destruction in the context of intense economic restructuring, but did not have a negative effect on job creation. However, the created jobs were different to those being destroyed. New jobs required better skilled workers, leaving low skilled workers unemployed. According to the above mentioned study the Polish labour market has exhibited a significant degree of dynamism with relatively high rates of job creation and job destruction by OECD standards. The downside is that job turnover in Poland results largely from job destruction, while in other countries it results from job creation. This difference implies that the welfare costs of the given rate of job reallocation are higher in Poland

than in developed market economies. Most of the new jobs are being created in the relatively underdeveloped service economy and in fast growing industries like transport, and a few selected branches of manufacturing (coke and petroleum products, motor vehicles, rubber and plastic products, publishing). Interestingly, the industries with the highest job destruction levels include several of the industries and services with the top job creation. Also, results obtained by Mickiewicz (2003) indicate that at least part of unemployment may be explained by turbulence created by inter-sectoral restructuring processes. Other results from the World Bank study support the low mobility argument, suggesting that 86% of the job reallocation happened within the same region (voivodeships), with only 14% happening between regions. It also supports my view that the Polish regions are relatively independent labour markets. For more details on regional differences see 3.4.4)

3.4.1 Gender specific labour market characteristics

The descriptive statistics on Polish employment and unemployment rates and levels and on participation rate, including gender breakdown are presented in Table 3. From the beginning of the 1990s we can observe continuous job destruction with employment rates and participation rates falling steadily over time from the level of 62% for employment rate and 72% for the participation rate in 1992, towards 53% and 65% in 2005 respectively. In 1997-1998 they recovered slightly to start decreasing again from 1999 onwards. In the period 1992-2004 there were 1.4 million jobs lost. The year 2005 was marked by a recovery and a 1% increase for both ratios. The employment rate increased to 54% and participation rate to 66%. It is expected that this positive trend will continue.

As far as the gender-specific indicators are concerned, the situation for women looks much worse than that for men. In the period 1992-2004 there was a continuous decrease of both employment and participation rates. From the level of 55% for employment rate and 65% for participation rates, the ratios deceased to 47% and 59% correspondingly. Again, the year 2005 brought about a slight recovery and a 1% increase for employment rate and no change in participation rate.

Table 2 Employment and unemployment levels and rates and participation rate in Poland in the period 1992- 2005 in Poland.

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Employment rate	62	61	60	60	60	61	61	59	56	55	53	53	53	54
Participation rate	72	71	71	69	69	68	68	68	67	67	66	65	65	66
Unemployment rate	13	14	14	13	12	11	11	13	16	18	20	20	19	18
Employment levels (thousands)	15,182	14,909	14,658	14,791	14,968	15,176	15,355	14,941	14,526	14,206	13,782	13,616	13,794	14,115
Unemployment levels (thousands)	2,333	2,427	2,475	2,277	2,110	1,916	1,835	2,140	2,787	3,170	3,431	3,329	3,230	3,046
Women														
Employment rate	55	54	54	54	54	53	54	53	50	49	47	47	47	48
Participation rate	65	64	64	63	62	62	61	61	61	61	60	59	59	59
Unemployment rate	15	16	16	15	14	13	12	13	18	20	21	20	20	19

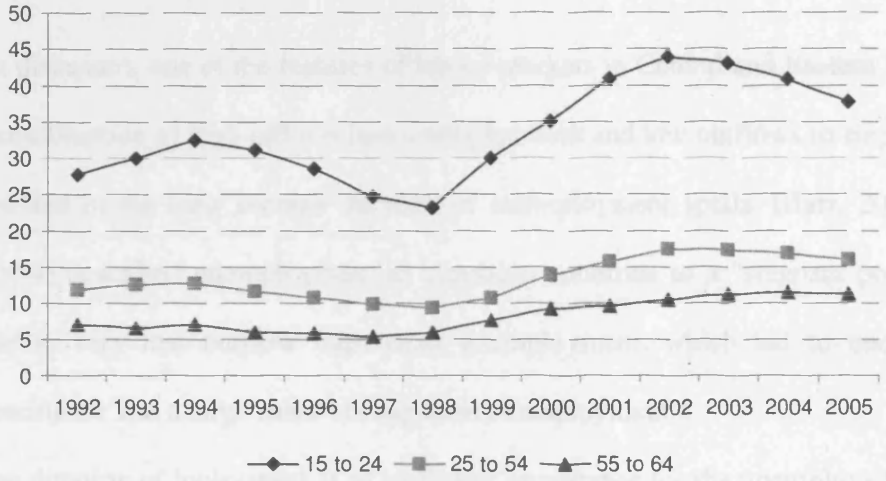
Source: OECD online database, www.oecd.org.

3.4.2 Unemployment characteristics by age and education

Another important feature of employment is its structure by age. The initial period of transformation of the Polish labour market was characterised by a high share of youth unemployment. The detailed statistics are provided in Figure 4. In the years 1991-1995 the share of people between 18-24 years of age was on average about 30%. From 1995 onwards it started to decrease to the level of 23% in 1998 and started to increase again to the level of 44% in 2002. Since then it is on a slow downward trend. The age group of 25-54 years until the year 1999 was maintaining a level of 11% on average. However after 2000 its share started to increase and reached its highest level of 17.5%

in 2002. In 2005 this age group accounted for 16% of unemployed. Another worrying trend in the Polish labour market is the continuous increase in the share of unemployment of the oldest age group of 55-64. In 1990 its share of total unemployment was 13% and in 2004 18%. However, Poland is not an isolated case. The same indicator for the Euro Zone was 18%, while in the US 11%.

Figure 4 Unemployment rates in Poland by age group in the years 1990-2005.



Source: OECD online database, www.oecd.org.

Polish labour market experiences a high divergence of unemployed depending on their level of education. The group with the highest unemployment levels in Poland consists of people with the lowest level of education (basic vocational, primary and lower secondary). They constitute around 70% of unemployed. This is also the group which is the most vulnerable to the unfavourable changes in the economy. During the slow down of economy in 2001 this group's share of unemployment in the total unemployment was reaching around 80%. The group with the lowest unemployment and least reacting to changes is the group with higher education (around 5% of all

unemployed). However, it is worth noting that from 1999 its share is also continuously growing, which is a worrying trend.

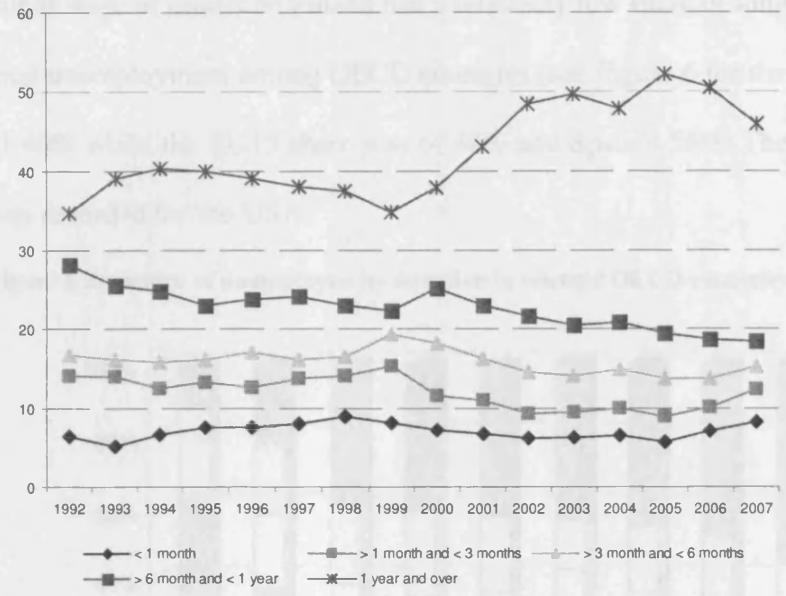
3.4.3 Long-term unemployment

According to Góra and Schmidt (1998) and Lehmann (1998), the make-up of those who dominate long-term unemployment numbers are individuals with unfavourable demographic and skill characteristics (we discuss it in more details below).

As discussed, one of the features of labour markets in Central and Eastern Europe was a combination of high inflows into unemployment and low outflows to employment. It resulted in the long average duration of unemployment spells. (Barr, 2005). Boeri (1994) described unemployment in transition countries as a "stagnant pool". This is due to very low outflow rates from unemployment, which led to unemployment persistence and a large share of long-term unemployment.

The duration of joblessness is of particular importance for the unemployed, because it affects not only their economic situation, but also may have an essential impact upon morale and social attitudes of job seekers. Waiting too long for a job may result in economic inactivity. However, it seems to be the problem in the whole of the European Union and not necessarily transition specific. In 2005 the Polish labour market was characterised by a very high 52% share of persons who were job seeking for a period longer than one year (see Table 3 and Figure 5 for more details on the structure of unemployed by the length of searching for a job and Figure 6 and Figure 7 for the structure in selected OECD countries).

Figure 5 Unemployed structure by duration as % of total unemployment in years 1992-2005.



Source: OECD online database, www.oecd.org.

Table 3 Unemployment structure by the length of unemployment in the years 1992 – 2005 (in %).

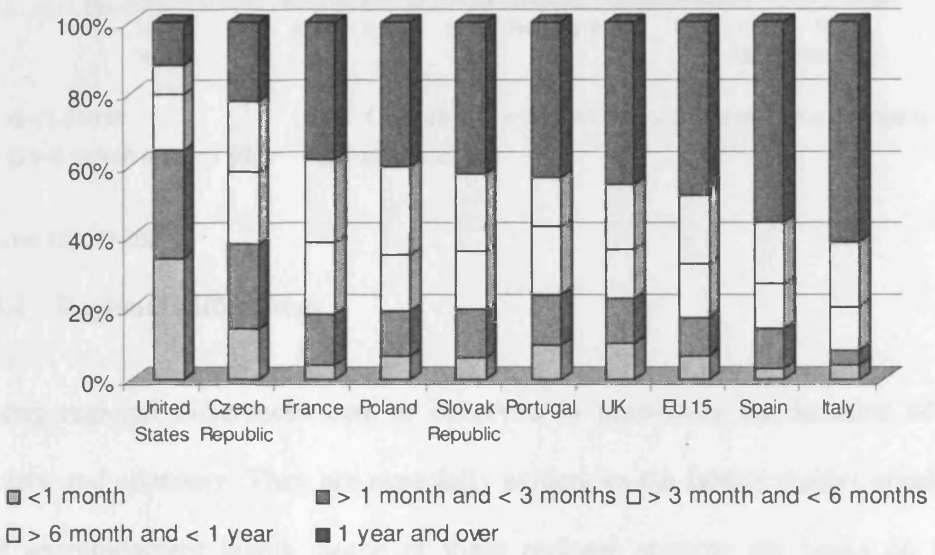
length of unemployment	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Less than 1 month	6	5	7	8	8	8	9	8	7	7	6	6	6	6	7	8
1 - 3 months	14	14	12	13	13	14	14	15	12	11	9	9	10	9	10	12
3 - 6 months	17	16	16	16	17	16	16	19	18	16	15	14	15	14	14	15
6-12 months	28	26	25	23	24	24	23	22	25	23	22	21	21	19	19	18
More than 12 months	35	39	40	40	39	38	37	35	38	43	48	50	48	52	50	46

Source: OECD online database, www.oecd.org.

The period of transition was characterised by an increasing share of the long-term unemployed in unemployment in Poland. In 1992 it amounted to 35%, it increased to 40% in 1994-1995, to fall again to 35% in 1999. Over recent years, starting from the year 2000 we can observe a dramatic rise in the share of long-term unemployed, from 35% in 1999 to 52% in 2005. At the time of writing (mid 2008) there have been some signs of recovery with the share of long-term unemployed starting to decrease.

Comparison with other OECD and EU countries produces a similar picture. In the initial stage of transition Poland had a relatively low share of long term unemployed in total unemployment among OECD countries (see Figure 6 for the 1994 data) at a level of 40% while the EU15 share was of 48% and Spain's 56%. The lowest ratio of 12% was recorded for the USA.

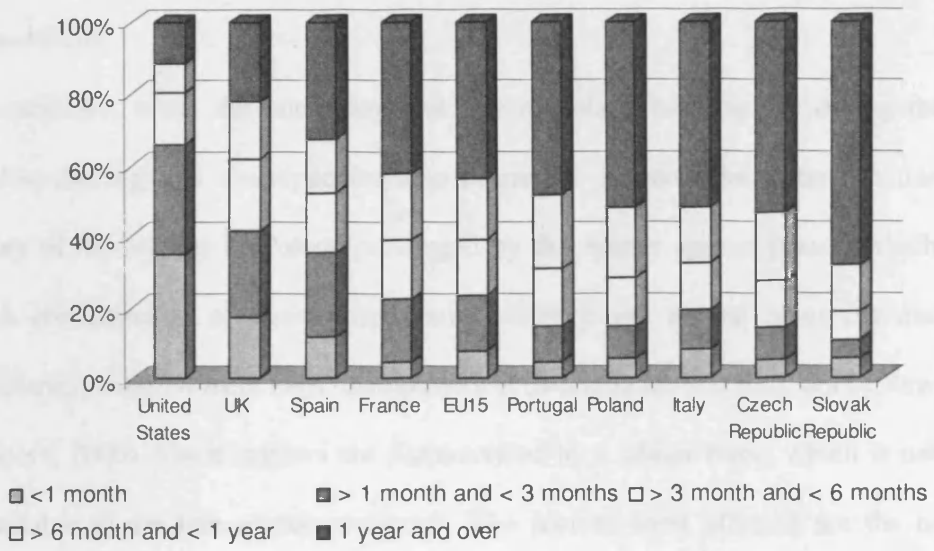
Figure 6 Structure of unemployed by duration in selected OECD countries in 1994.



Source: OECD 2007

The situation changes over time. By 2005 (see Figure 7) many of EU15 countries managed to lower the share of long term unemployed in total unemployment. Spain fell from 56% to 33%, the UK from 45% to 22%. The overall EU15 average fell from 48% to 44%. Poland and other post communist countries like Poland, Czech Republic and Slovak Republic started from the bottom of the table in 1994 but moved to the worst performers in 2005. The only example of a comparable level of long term unemployed among the old EU countries is that of Italy (52% in 2005).

Figure 7 Structure of unemployed by duration in selected OECD countries in 2005.



Source: OECD 2007

3.4.4 Regional differences

Strong regional differences can be observed in practically all domains of Polish society and economy. They are especially evident in the labour market employment and unemployment levels. Some of these regional patterns are based on history, different cultural heritage or asymmetric economic shocks. But the main division is between urban and rural areas. However, again, this problem is not only transition specific and other countries suffer from it as well. The best examples within the EU are Spain and Italy.

At the same time, the regional unemployment pattern in Poland is strongly affected by a set of factors that operated on a macro level, as discussed in the previous sections. In particular, Newell and Pastore (2000) showed that regions with higher unemployment were those experiencing a greater change in industrial structure. They also argued that regions of high unemployment were those with higher inflow rates to unemployment

rather than longer spells of unemployment, suggesting that the effect of restructuring was critical.

Accordingly, while the unemployment rate in Poland rose rapidly during the early 1990s, the regional discrepancies also deepened. In particular, after the transition, many of the regions in Poland privileged by the former system (those, which had a high concentration of nationalised farms, mining and natural resources extraction industries) suffered from high unemployment (Mickiewicz and Bell, 2000; Newell and Pastore, 2000). These regions are characterised by a labour force, which is not easily adaptable to the free market economy. The regions most affected are the northern regions which were dominated by State farming, agricultural north-eastern regions and industrial regions like textile and clothing in Lodz, and coal mining in the South. The highest unemployment is therefore reported in the economically backward, mainly agricultural, areas.

More generally, the World Bank study of the Polish labour market (2001) found the following factors accounting for most of the regional differences in job creation and explaining 83% of variance in hiring rates across regions:

- The economic structure of the region, where regions with a developed service sector hire many more workers than regions where the service sector is less important.
- The quality of human capital in the region, since the hiring rate is higher the larger the proportion of the population with secondary or higher education.
- The level and structure of wages, since the hiring rate is significantly higher in regions where productivity is high relative to wages.

- The wage dispersion in the region, which is an indication of wage flexibility at the lower-end of the earnings distribution.

The preponderant factors determining differences in the hiring rate were education and the sectoral structure of employment.

The regional disparities in unemployment that emerged in the early 1990s have proven to be very persistent. Regions with high unemployment at the beginning of 1990s continue to have high unemployment in 2000 and later. I will explore this issue in the empirical chapter on the regional employment dynamics (see Chapter 5) and will provide the analysis of similar problems in Spain in Chapter 4. Moreover, these disparities deteriorated. These results are due to the fact that most of the decline in unemployment is happening in regions where unemployment was already relatively low, widening the dispersion in unemployment rates between regions. In Table 4 we can see how regional unemployment rates change over time, indicating the lowest and the highest rate and the ratio of the highest to the lowest rate. In 1993 the highest regional unemployment rate was 4 times higher than the lowest, with the Suwałki region – 30.3% to Warsaw region – 7.6%. From 1994 when the national level of unemployment was decreasing, the geographic disparity intensified. In 1996, the disparity was more than six fold (Warsaw region – 4.1%, Słupsk region – 25.7%), while in 1997, it was eightfold (Warsaw region – 2.7%, Suwałki region 21.2%). By 1998 the ratio had increased to almost 8 times, with Slupsk region at 20.5% and Warsaw region at 2.6%. This situation did not change significantly after the 1999 administrative reform which reduced the number of voivodeships from 49 to 16. After this change we can notice a reduction in unemployment differences across regions as a result of higher unemployment rates at the lower-end of the distribution due to their

spreading over a larger area. Generally, larger regional units imply smaller differences in unemployment rates between them. After the year 1999 the differences remained at the same level, with the maximum unemployment rate being the double the minimum unemployment rates in the voivodeships.

Table 4 Regional unemployment rate in Poland. Maximum and minimum values in 1991-2004.

	1991	1992	1993	1994	1995	1997	1998	1999	2000	2001	2002	2003	2004
Maximum	18.6	26.6	30.3	29.8	28.4	21.2	20.5	21.4	24.5	26.0	26.6	25.6	26.7
Minimum	4.2	6.4	7.6	6.5	5.4	2.7	2.6	8.7	11.1	14.1	16.1	15.2	14.7
Max/Min	4.4	4.2	4	4.6	5.3	7.9	7.9	2.5	2.2	1.8	1.7	1.7	1.8

Source: Central Statistical Office, Annual Statistical Yearbooks.

Obviously, the change of regional administrative units has not caused any change in the measured geographic distribution of unemployment. Mazury and Pomorze Zachodnie voivodeships are still most affected by unemployment, while the big metropolitan areas are the least affected. Almost 50% of unemployed persons are inhabitants of the rural areas. Rural unemployment is still generated in the south and south-east Poland, where the rural population predominates in total population.

3.4.5 Structural differences

The Polish labour market has faced a very difficult task in the restructuring of agriculture and of certain industrial branches such as coal, mining, metallurgy, energy production, the arms industry, the shipbuilding industry, and rail transport. Ownership transformation caused a decline in the number of people that can be efficiently employed in these branches.

The restructuring of the agriculture sector has brought about a situation, where the highest unemployment is reported in the economically backward, agricultural areas. Because of ownership transformations a great number of the former state-owned farms' employees have become unemployed. These are mostly people with low skills, for whom the opportunities of finding jobs, both within and outside of their area of residence, are particularly limited. Lehman, O'Flaherty, Walsh (1997) in their study provide some evidence to believe that less developed regions have a higher incidence of long term unemployment. They argue that this situation is caused by a lack of restructuring in existing jobs and a lack of growth in private sector jobs.

The sectoral structure of the economy is defined by the contribution of agriculture, industry and services to both employment and the aggregate value added. In most developed countries, the share of agriculture in the creation of value added dropped in the last few decades to only 2-5 percent and the share of employment in services has grown to 60-70% (see Table 5 for agriculture, Table 6 for services and Table 7 for industry share of creation of value added by selected countries).

Table 5 Value added created by agriculture as % of GDP in selected countries.

agriculture, value added as % of GDP	2001	2002	2003	2004	2005
Poland	5	5	4	5	5
Czech Republic	4	3	3	3	3
Hungary	4	4	3	4	n/a
Italy	3	3	3	3	2
Slovak Republic	4	4	4	4	3
Spain	4	4	4	3	3
United Kingdom	1	1	1	1	1
Ireland	3	3	3	2	n/a
EU15	3	3	2	2	2

Source: World Bank, Doing Business, 2007, www.doingbusiness.org

Table 6 Value added created by services as % of GDP in selected countries.

services, value added as % of GDP	2001	2002	2003	2004	2005
Poland	65	67	66	64	64
Czech Republic	58	60	61	59	60
Hungary	64	66	66	65	n/a
Italy	69	70	70	70	71
Slovak Republic	66	68	67	67	67
Spain	67	67	67	67	67
United Kingdom	72	73	74	74	73
Ireland	55	56	60	60	n/a
EU15	70	70	71	71	73

Source: World Bank, Doing Business, 2007, www.doingbusiness.org

Table 7 Value added created by industry as % of GDP in selected countries.

industry, value added as % of GDP	2001	2002	2003	2004	2005
Poland	29	29	30	31	31
Czech Republic	38	37	36	37	37
Hungary	32	31	30	31	n/a
Italy	28	28	27	27	27
Slovak Republic	30	28	29	30	29
Spain	29	29	29	29	29
United Kingdom	27	26	25	25	26
Ireland	42	41	38	37	n/a
EU15	28	27	26	26	26

Source: World Bank, Doing Business, 2007, www.doingbusiness.org

Poland has started the transformation of sectoral employment at the beginning of 1990' but as shown in Table 8, in 2003, a year before the EU accession, the share of agriculture was still a two digit number. The table below presents a comparison of sectoral division and value added created by sectors in EU15, and in the new member states excluding Poland (NMS9) and Poland. However, the problem of these economies is that the initial structure was distorted. Mickiewicz and Zalewska (2006) in their study of structural change in employment found, that the structural distortions in the command economies were most acute for those countries that were already at a higher level of development. Thus, "the economic development led to the amplification of structural distortions, moving these economies further away from the efficient path." (Page 20).

Table 8 Sectoral structure of employed and value added in EU15, NMS9 and in Poland in 2003.

Sector	variable	EU15	NMS9	Poland
Agriculture	employment	3.7%	7.1%	18%
	value added	2%	3.4%	4%
Industry	employment	26.6%	32.7%	30%
	value added	26%	35.2%	29%
Services	employment	71.4%	63.9%	66.5%
	value added	71%	57.8%	66%

Source: European Commission (2004)

As reported in Table 8 Polish agriculture was producing in 2003 4% of added value while having an employment share of all employed of 18%. In comparison, in EU15 countries, the agricultural sector with its employment share of only 3.7% was producing 2% of value added. The NMS9 average employment share was more than half of the Polish, producing value added of a comparable level to Poland. In addition, the share of employment in services is low in comparison with the EU15 and NMS9. This is consistent with the high share of both agriculture and industry.

In Table 9 we can see the evolution of sectoral employment over the period 1994-2005. We can observe a steady decrease of employment levels in agriculture, a slight decrease in industry and an upwards trend of employment levels in services.

Table 9 Employed persons by economic sectors in the years 1994-2005 in thousands and as % of total employment.

Employment	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total	14,658	14,791	14,969	15,177	15,356	14,941	14,526	14,207	13,782	13,617	13,795	14,116
in agriculture	3,514	3,331	3,298	3,104	2,914	n/a	2,727	2,719	2,663	2,509	2,484	2,452
in industry incl. construction	4,682	4,728	4,739	4,846	4,921	n/a	4,481	4,332	3,948	3,892	3,976	4,127
in services	6,462	6,732	6,932	7,228	7,520	n/a	7,319	7,156	7,171	7,216	7,335	7,537
in agriculture as %	24	23	22	20	19	n/a	19	19	19	18	18	17
in industry incl. construction as %	32	32	32	32	32	n/a	31	30	29	29	29	29
in services as %	44	46	46	48	49	n/a	50	50	52	53	53	53

Source: OECD online database, www.oecd.org.

The high share of agricultural employment reflects rural over-employment. These are persons with very low qualifications. The situation will be further complicated by a complex system of subsidies to farm products, introduced at the time of Polish EU

accession in mid 2004. However, analysis of the EU subsidies impact on structural change will be left for further research.

3.5 Labour market policies in Poland

After 1989, the need to formulate a completely new labour market policy arose and the fundamental legislative acts regulating the functioning of the labour market was passed by the Parliament on 29 December 1989[6]. It introduced market regulation into the area of employment enabling economic subjects to take flexible decisions on employment and the protection of the interests of any groups which could suffer from it. (Piotrowski and Sztanderska, 1999, Ministry of Labour and Social Policy, 2005, Bukowski, 2006).

In addition, the new situation in the Polish labour market required a unification of labour relations. Therefore, in 1996, the Labour Code was passed, increasing the rights of private sector employees and equalizing them with the rights of the people employed in the public sector. In 1990, the State budget decided to finance passive and active labour market policies.

Since the beginning of the transition to a market economy the Polish government has applied a wide menu of Active Labour Market Policies (ALMP) to combat unemployment and long-term unemployment. Those of most importance in terms of expenditures are: training, intervention works and public works. (Kluve, et al., 1999, Ministry of Labour and Social Policy, 2005; Bukowski, 2006).

However, during the initial period of creating labour market policies the majority of attention was focused on social protection measures for the unemployed instead of

[6] See Appendix 4 for a detailed review of labour market reforms in Poland.

ALMPs. As a consequence, around of 2 million working people left the labour market using early retirement schemes (Golinowska, 2004).

In 1990, for the first time, financial resources have been separated in the State budget and allocated to finance passive and active labour market policies (i.e., Labour Fund). A contribution to the Labour Fund, equal to 2% in 1990 from net wages, was raised to 3% in 1993 from gross wages and reduced to 2.45% in 1999. Premiums for the Labour Fund are paid in relation to remuneration, which cover half of the cost of the labour market policy (Sztanderska, Piotrowski, 1999). Because the principal revenue source of the fund is an earmarked payroll tax, its revenues tend to fluctuate pro-cyclically. In contrast, its mandatory expenditures (essentially unemployment insurance benefits) move counter cyclically and as a result funding for active labour market policy falls precisely at the point in time when it is most needed. During the period of accumulation of the second wave of unemployment in 1999-2002, ALMPs did not have too much influence. This was a period of decentralisation, where a new tier of local self-government (powiat) took over the responsibilities relating to ALMPs.

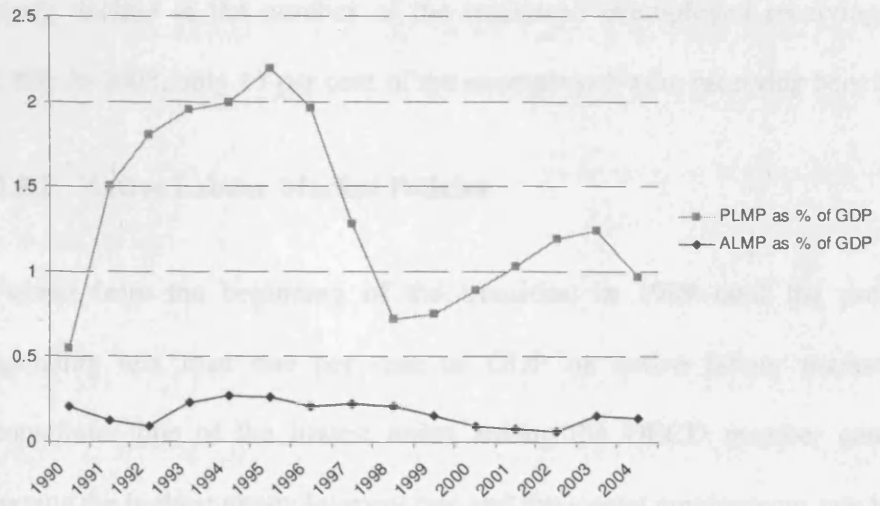
Indeed, as shown in Table 10 and Figure 8, we can observe a fall in ALMPs spending (the share of ALMPs spending as % of total Labour Fund). We can see the level of policy activism, after an initial fall in 1991, rising until 1998. Afterwards the ALMPs spending was falling until 2002, when the share of active programmes in total labour market programme spending declined from 19.2 to 5.4 %. During the same period, spending on passive measures almost doubled, with almost all of the increase coming in the form of increased spending on pre-retirement pensions. This can be interpreted as the crowding out effect discussed by Mickiewicz & Bell (2000) and Burns & Kowalski (2004).

Table 10 Expenditure on ALMPs and PLMPs as % of GDP in Poland.

Years	ALMPs as % of GDP	PLMPs as % of GDP	Policy Activism (a)
1990	0.21	0.34	38.1
1991	0.12	1.38	8
1992	0.09	1.71	5
1993	0.23	1.72	11.8
1994	0.27	1.72	13.6
1995	0.26	1.93	11.9
1996	0.21	1.75	10.7
1997	0.2	1.1	17.2
1998	0.2	0.5	23.9
1999	0.2	0.6	19.2
2000	0.1	0.8	11.1
2001	0.1	1	7
2002	0.1	1.1	5.4
2003	0.2	1.1	12.8
2004	0.1	0.8	14.3

Source: Polish Ministry of Labour and Social Policy 2006.
(a) Policy activism is defined as the share of ALMP expenditures in total Labour Fund expenditures

Figure 8 Expenditure on ALMP and PLMP as % of GDP in Poland.



Source: Polish Ministry of Labour and Social Policy 2006.

3.5.1 Passive Labour Market Policies

Labour market programmes are implemented by the National Labour Office (NLO) and a network of over 500 municipal (powiat) labour offices (PLO). Over 85% of the funding for these programmes comes from a 2.45% payroll tax for the Labour Fund. The remaining amount is covered by the State budget and other sources. In Poland we

can distinguish two forms of passive labour programmes: unemployment benefits and pre-retirement benefits and allowances.

The pre-retirement programmes are designed for individuals at pre-retirement age and are meant to allow them to withdraw from the labour market before reaching retirement age. Unemployment benefit is available for a limited duration to the unemployed.

From the beginning of the transition, as benefits were easily obtainable, many people abused them, raising the cost of the social protection. Later on, changes in the definition of unemployment and in the restriction of rights to benefits resulted in a sharp decline in the number of the registered unemployed receiving benefits after 1992. In 2003, only 15 per cent of the unemployed were receiving benefits.

3.5.2 Active Labour Market Policies

Poland from the beginning of the transition in 1989 until the present has been spending less than one per cent of GDP on active labour market policy. This constitutes one of the lowest ratios among the OECD member countries, despite having the highest unemployment rate and the lowest employment rate in the OECD.

Data on share of public spending on active measures as a percentage of GDP in selected OECD countries is shown in Table 11. A wide disparity in spending on active measures can be observed, ranging from a low of 0.1 per cent of GDP for Poland followed by the United States and the United Kingdom, to a high level of around 1.5 per cent for Sweden and Denmark. There has been almost no trend since 1985 in the OECD average spending devoted to active measures, compared with a slight upward trend in the EU.

Table 11 Spending on active labour market policies in selected countries as % of GDP, 1985-2001.

ALMPs as percentage of GDP	1985	1990	1995	1999	2001
Denmark	0.9	1.1	1.9	1.8	1.5
France	0.7	0.8	1.3	1.4	1.3
Germany	0.7	1.1	1.3	1.2	1.1
Hungary			0.4	0.4	0.5
Ireland	1.5	1.4	1.6	0.9	0.7
Italy		0.2	0.2	0.5	0.5
Poland		0	0.4	0.3	0.1
Portugal		0.6	0.8	0.8	0.6
Spain	0.3	0.8	0.5	0.8	0.8
Sweden	2.1	1.7	2.2	1.7	1.4
United Kingdom	0.7	0.6	0.4	0.4	0.3
United States	0.1	0.2	0.2	0.2	0.2
OECD	0.7	0.7	0.8	0.8	0.7
EU-15		0.8	1	1	0.9

Source: OECD (2004), Social Expenditure Database (SOCX, www.oecd.org/els/social/expenditure).

There is a wide range of active labour market programmes available. They include individual counselling, group counselling, career information, job seeking workshops, job exchange and fairs, and job clubs, training, training loans, loans to set up a business, loans to create new jobs, grants to individuals to continue education, intervention works, public works, special programmes, work of public benefit, refunds of commuting costs.

There has been little research done to examine the net impact of these programmes. OECD studies suggest that targeted subsidies, like the school leaver programme, can have a positive impact on participants' employment prospects, but that more general programmes, like the public works programme, tend either to lower the employment chances of participants or to generate substantial deadweight losses by subsiding jobs that would have been filled anyway (Burns, Kwiatkowski, 2004). One of the few studies to examine Polish active labour market programmes, that by O'Leary (1998), found that participation in Polish public works programmes actually hurt individual's job prospects (O'Leary, 1998). For more research on the effectiveness of ALMPs in Poland please see Chapter 6.

ALMPs in Poland mainly operate through wage subsidies. They include:

- Public works programmes (75 per cent wage subsidy) available to sub-national governments.
- Intervention works offering a discount to the wage cost of hiring unemployed workers by as much as their unemployment insurance benefit. They also offer a further signing bonus if their employer signs them on after the expiration of the 12 month programme.

  Special school leaver programmes that pay firms hiring eligible individuals, the labour and social security costs of a worker up to those associated with the minimum wage.
- Apprenticeship programmes that provide recent graduates with a scholarship equal to the amount of unemployment benefit if they are accepted in an employment-office certified programme. Social security contributions are also covered by the office, while a designated mentor receives an honorarium equal to 10 per cent of the scholarship value.
- Subsidised loans for individuals hiring the long-term unemployed and for unemployed individuals that start their own business.
- Another very popular type of ALMPs is training such as in supermarket check-out assistance, forklift truck driving, foreign currency assistance and other jobs in the emerging services sector.

Public works were introduced in 1992, loans for employers in 1993, the active programmes for graduates (apprenticeships, scholarships) in 1996. Since 1997, the

local labour offices concluded contracts with the employers, where they were covering part of the expenses for social insurance.

Some ALMPs were especially targeted at the unemployed with a particularly difficult situation in the labour market. Among them the following groups have been included: women, long-term unemployed, single parents, families with both parents unemployed, persons deprived of employment as a result of liquidation of national farms, school graduates, those released from prison, and those returning from military service.

In Table 12, Table 13 and Table 14 we can see the overall statistics for the most important programmes in the period 1999-2005. Training was the most popular for of ALMPs with the highest and the most stable level of participants. It was also the cheapest form of aid to the unemployed. As for its effectiveness measured by the number of persons who completed the programme to the number of persons who received a job after the programme, its effectiveness was decreasing over time. In 2005 37% of people who participated in training obtained a job, comparing to 51% in 1999.

Table 12 Training as ALMP and its efficiency.

Training	1999	2000	2001	2002	2003	2004	2005
number of participants (1)	146,037	108,711	51,176	51,472	126,600	137,815	150,925
number of persons who completed the programme (2)	129,409	101,743	48,841	43,873	117,514	130,180	147,837
number of persons who received a job after the programme (3)	65,476	49,912	21,727	19,575	47,228	34,932	54,378
efficiency of the programme (2/3)	51%	49%	44%	45%	40%	27%	37%
expenses in PLN (4)	104,797	84,365	57,096	50,828	113,862	127,671	174,590
cost of the programme per participant in PLN (4/1)	718	776	1,116	987	899	926	1,157
cost of re-employment of a participant in PLN (4/3)	1,601	1,690	2,628	2,597	2,411	3,655	3,211

Source: Ministry of Labour and Social Policy 2006.

Intervention works were very popular in 1999, but over time the level of participants decreased more than half. However, it was much more efficient by comparison to training with the average of above 60% over the measured period. The participation cost per person in 2005 was more than twice as high as training. In 2005 the cost was PLN 2,736 per person, while the training cost was PLN 1,157 per person. The cost of re-employment per participant was of PLN 3,211 for training and PLN 5,179 for intervention works.

Table 13 Intervention works as ALMP and its efficiency.

Intervention Works (IW)	1999	2000	2001	2002	2003	2004	2005
number of participants (1)	174,669	132,930	64,846	58,314	122,867	115,334	70,878
number of persons who completed the programme (2)	134,253	107,766	60,187	40,874	97,382	96,082	60,517
number of persons who received a job after the programme (3)	87,335	71,522	40,791	27,795	68,130	64,212	37,443
efficiency of the programme (2/3)	65%	66%	68%	68%	70%	67%	62%
expenses in PLN (4)	271,938	155,704	153,742	93,475	223,520	232,768	193,921
cost of the programme per participant in PLN (4/1)	1,557	1,171	2,371	1,603	1,819	2,018	2,736
cost of re-employment of a participant in PLN (4/3)	3,114	2,177	3,769	3,363	3,281	3,625	5,179

Source: Ministry of Labour and Social Policy 2006.

Public works was the ALMP with the lowest level of participants. It was the most expensive programme of all in terms of participation costs per person (PLN 4,254 in 2005) and re-employment costs per participant (PLN 14,898). Being the most expensive programme it was also the least effective, with its efficiency growing however over the years. In 1999 only 13% of participants in public works could find a job, while in 2005 it was more than doubled to the level of 29%.

Table 14 Public Works as ALMP and its efficiency.

Public Works	1999	2000	2001	2002	2003	2004	2005
number of participants (1)	77,881	56,328	32,874	34,368	103,440	86,244	69,180
number of persons who completed the programme (2)	69,592	51,982	30,008	25,853	89,202	75,832	68,119
number of persons who received a job after the programme (3)	9,201	7,357	3,986	4,634	14,708	15,337	19,756
efficiency of the programme (2/3)	13%	14%	13%	18%	16%	20%	29%
expenses in PLN (4)	207,963	146,536	111,886	88,372	297,057	279,848	294,321
cost of the programme per participant in PLN (4/1)	2,670	2,601	3,403	2,571	2,872	3,245	4,254
cost of re-employment of a participant in PLN (4/3)	22,602	19,918	28,070	19,070	20,197	18,247	14,898

Source: Ministry of Labour and Social Policy 2006.

3.6 Conclusions

The Polish labour market has been subject to transformation during the past 18 years. The introduction of market principles, apart from its positive results, was accompanied by certain side effects, most significantly unemployment. The Polish labour market suffers from high levels of regional, youth and long-term unemployment. Another point of concern is its structural character. The main challenge for the economy as a whole is to maintain a high rate of growth while keeping wage growth in line with a (high) rate of labour productivity growth. It also still faces restructuring challenges in certain industrial branches like coal mining, metallurgy, energy production, the arms industry, the shipbuilding industry, rail transport and agriculture.

Improving the Polish labour market is an enormous challenge for the country's government, alongside higher incomes, reducing poverty, faster growth and more rapid convergence. It can be met successfully. Over the past 30 years, there were a number of OECD countries (Spain, Luxembourg, the Netherlands, Norway, the United States) that have succeeded in raising overall employment rates by 10 or more percentage points. The nature of those countries problems was different in each case. Nevertheless, the improvements were typically the results of a fundamental labour market reform. In particular, the active and passive labour market policies should be reassessed and treated as one of the main tools in fighting unemployment and improving the labour market conditions in Poland. A detailed empirical study on effectiveness of the active measures that may lead to some recommendations for reform is described in Chapter 6.

Chapter 4 The labour market in Spain

Spain has long been regarded as a case of mass unemployment. However, over the last few years some improvement has taken place. Spain's initial labour market conditions were very similar to those of the post-communist Poland. Through a series of major labour market reforms making it more flexible and efficient, the policy makers managed to reduce the unemployment rate substantially. In this chapter I highlight some of the remaining challenges and some general lessons from the Spanish experience, which should help us to understand the Polish case better.

Among the OECD countries, the performance of the Spanish labour market has been among the worst as far as employment activity is concerned; with unemployment rates during the 1990s exceeding 20%, employment creation has been one of the primary challenges facing the Spanish government (Gil Martín, 2002).
Nevertheless, over the last two decades Spain has made significant progress in reducing unemployment levels and creating employment. This has been achieved by strong and sustained economic growth and through effective reforms of labour market policies.

The chapter is organised as follows. First, I discuss the nature of the unemployment problem in Spain and explore its main causes. Secondly, I provide the historical context and analyse the transformation which the labour market in Spain has undergone since the political liberalisation in 1975. Afterwards, I survey the current state of the Spanish labour market, its reforms and passive and active labour market policies.

4.1 The transition of labour market in Spain – an overview

The developments of the Spanish labour market can be divided into four stages, not dissimilar to the Polish post-liberalisation trajectory discussed earlier. The initial transformation stage falls into the period of 1977-1985. Similar to the Polish transition experience, it is a period characterized by intense employment destruction. Around 1.8 million jobs were lost. Between 1976 and 1981, in spite of a slow increase in the active population, there was a strong decrease in employment and a strong increase in unemployment. Between 1981 and 1985 employment destruction slowed down, but there was an increase in the active population, and as the result, unemployment continued to grow in a spectacular way. In 1985 the number of unemployed reached the 3 millions, approximately 22% of the active population. It is also worth pointing out, that this period was in the pre-EU run-up. Spain formally entered EU in 1986, albeit, similar to Poland, Spain was already on its way to re-integrate with the European and world economy before the formal accession.

The second distinctive phase of the Spanish transformation occurred between 1985-1991. During this stage robust employment creation took place, recovering the employment losses during the previous decade. In these years a large number of women entered the labour market. The active population also grew at a fast pace, mainly due to the increase of female activity rate. As a result, unemployment diminished to some extent but continued to be very high: in 1990 the number of unemployed exceeded 2.5 millions and the unemployment rate reached 16%. Moreover, a significant increase in temporary jobs took place (from 15% to 30%). The labour market entry of women is specific to Spain; in Poland female activity rates

inherited from the command economy system were high at the initial point of transformation.

The next stage of transition in the Spanish labour market took place during 1991-1994. Between 1991 and 1993 the economic depression caused a loss of around 0.8 million jobs. Although the growth in the active population slowed down, the number of unemployed at the beginning of 1994 exceeded 3.8 millions, around 25% of active population. During 1994 employment destruction however slowed down. At the end of 1994 the number of unemployed was lower as compared with the number for the previous year. (M. Castro, J. Tomas, 1998). This brief phase is somehow similar to the Polish economic slowdown at the beginning of 2000s.

The last distinctive stage commenced in 1994 and continues to the present (at the time of writing in mid 2008). Similar to the most recent phase in Poland, it is characterised by a sustained increase in employment, much higher than the EU average. However, the methodological changes in the Economically Active Population Survey- EPA (Encuesta de la Poblacion Activa) impede a proper analysis of the period and overestimate the tendency. The growth in the active population has been smaller and the unemployment rate has diminished to the level of 14% in 2001 (11% according to the new methodology). In this period a very significant increase in the female employment rate has taken place (from 32% to 44%). However, the rate of temporary jobs has remained stable, at the level of 32-33%. (Jimeno and Bentolila, 2003, Doménech and Gómez, 2004).

4.2 Causes of unemployment in Spain

Examining the potential causes of unemployment is essential in understanding the scope of the reforms undertaken in Spain. It is typically asserted that the lack of flexibility was among the major causes which exerted an upward pressure on labour costs back in the 1980s (Gil Martin, 2002).

In addition to the labour market institutional setup, another important reason is the outdated product market institutional framework. In addition, two major shocks took place in the mid-70s, the oil price shock and - following the political transition - the period of high inflation, again, not dissimilar to the Polish case. Moreover, the industry shakeout of the 1975-85 period alongside declining job opportunities in agriculture, led to the highest unemployment rate in Europe at the level of around 20% throughout the whole decade of 1980s, as already discussed. Between 1976 and 1985, overall employment levels declined by almost 25%. The sharp slowdown in labour demand, following the first oil shock, coincided with growing migration from rural to urban areas. However, the real wage growth did not slow down before 1980. As a result, real wages surpassed productivity between 1976 and 1979 by 22% (Tascon, 2000).[7] Similarly, Bentolila and Blanchard (1990) indicate a decrease in capital accumulation due to wage increases and monetary contractions as one of the main causes of high and persistent unemployment:. in their interpretation, long spell of unemployment led to a hysteresis effect, which resulted in higher equilibrium unemployment, hence persistence.

[7] http://www.eurofound.eu.int

We will now present a more detailed discussion, starting with the product market and next the labour market.

Initial structural features of the Spanish industry shared some common characteristics with the Polish case. In Poland, at the initial point, the low energy and energy-related products prices constituted the main price distortion (eliminated at time of liberalisation), and hierarchical and centralised production structures faced little competition both from inside and from outside. Similar to this, in the early 1970s the product markets in Spain were characterized by the presence of quasi-monopolies. Many producers were protected through high import barriers or export subsidies. The result was a high consumption of oil and not surprisingly the product market was hit very seriously by the oil price shock (R. Torres, 2001).

On the labour market side, rigid laws and regulations had been adopted in the 1940s and 1950s. There was very limited freedom of association, at both the enterprise and national levels. The government provided its employees with high employment protection. That model lasted until the early 1970s. (Tascón, 2000) In point of fact the Fascist institutional setup of the labour market was not that different from that of Communist Poland.

After Franco's death in 1975, freedom of association and trade union rights were reintroduced. However, labour laws were not reformed. In Spain at that time employment protection was one of the strictest among OECD countries. It was very difficult to fire a permanent worker. Therefore, employers were not eager to hire anybody. In addition, wages were inflexible; they were determined through a complex

system influenced by organised labour. In practice it meant that it was very difficult to differentiate wages across both occupations and industries (R. Torres, 2001). In general, the political liberalisation resulted in an inconsistent set of institutions.

Some researchers point to the wage negotiation process as one of the causes of high unemployment in Spain. Core workers exert upward wage pressure, which in turn leads firms to make job conditions of outsiders more precarious in order to make up for the high insider wage-costs. Not only does this process help to explain the high unemployment rate, as noted by Bentolila and Dolado (1994), but it is also responsible for the segmentation of the Spanish labour market, since firms often make up for the high insiders' wages by cutting outsider's wages down. (see also the discussion in the theoretical chapter, On Efficiency Wage v. Insider - Outsider Theory; and Lindbeck-Snower (1998) & Calmfors et al. (1988). Similarly, Toharia (1997) identifies the role of increasing wages as one of the reasons behind the unemployment explosion in Spain, especially in the 1980's. However this interpretation runs contrary to claims made in Layard, Nickell and Jackman (1991) and repeated in OECD (1994) as to the role of these variables. Similarly, Blanchflower (1999) claims that there is relatively little evidence from Spain that firing costs, unemployment benefits, unions, the size of the tax wedge (the difference between take-home pay and the cost of labour to employers), skills mismatch or labour unions had much to do with the rise in unemployment in this country.

Dolado and Jimeno (1995) aims to combine these conflicting perspectives. They suggest that unemployment results from the combination of a series of adverse shocks,

compounded by disinflationary policies and a system of labour market institutions. Inefficiencies inherited from the old autocratic system were bound to be reformed, but unfortunately the political reform coincided with the two oil price shocks. To offset the initial rise in unemployment, a neo-corporatist arrangement (social pacts) was implemented. In order to ensure the unions' participation in the agreement, the government provided much more generous welfare benefits and maintained employment protection from the past. This led to an increasing discrepancy between the employed and the unemployed.

Thus, adverse shocks to the economy triggered undesirable adjustments. In addition, greater numbers of inactive people meant less tax revenue, more benefits to be paid and, consequently, higher tax rates and non-wage costs. This causes further inactivity and an increase in the fiscal wedge, thereby lessening the incentive to create jobs (J. Dolado, J. Jimeno, 1995).

We can encounter many similarities of the causes of high unemployment in Spain and Poland. The most important ones include the outdated labour market institutional framework, and lack of flexibility. Both of the markets were also subject of a very radical labour market restructuring including a major shift of employment from agricultural sector to services.

4.3 Internationalisation, EU integration, and labour market reforms

The Spanish employment strategy commenced in the early 1980s, however it was preceded by the external and internal product market liberalisation. In the process of European Union accession, the government undertook a major programme of trade

liberalization. Import barriers were reduced, obstacles to foreign direct investment were suppressed, product markets were liberalised. (Tascón, 2000)

Signing the accession treaty in 1986 symbolized for Spain a definitive end to its political and economic isolation and of its international recognition as a democratic, market economy country. EU accession has been one of the most important factors in the evolution of the Spanish economy and its labour market.

However, the process of economic opening up had begun many years before and it will still take some more time to be completed. In 1959, still during Franco dictatorship, the first steps were taken through its Plan of Stabilization. A unique exchange rate was introduced and measures were put in place to adopt a market economy and to make way for foreign investments.

The Preferential Agreement with the UE was signed in 1970. It was of exclusively commercial content, and clarified the future of the relationships between Spain and the UE. The liberalisation of trade was more intense for the UE side than for Spain, which still maintained some advantages in exports.

The decade of the 70's was marked by a severe economic crisis, which had devastating consequences for the Spanish economy. Between 1974 and 1985 the Spanish economy hardly grew at all, at best 1.7% annually. This had a strong negative effect on the creation of jobs. The annual job destruction reached more than 18% of employment and 27% in the case of manufacturing.

The EU accession was negotiated in these highly unfavourable economic conditions. For Spain, EU integration had a strategic and high-priority character, while for EU it was not

the most important topic. After EU accession, a liberalisation of fixed-term labour contracts was introduced. Before 1984 it was difficult to hire employees under fixed-term contracts. As a result, Spain came to have the highest incidence of temporary work in the EU. Amendments in employment protection legislation were also adopted. Since 1994, the cost of dismissal has been reduced from 45 days to 33 days, and the maximum severance pay was cut by almost half (from 42 months to 24 months).

Another element of the reform was the reduction in social security contributions by almost half. Moreover, obstacles to part-time work have been removed. Before EU accession part-time workers did not have equal social security rights compared to fulltime jobs (e.g. in respect to pension rights). Therefore people were not eager to take up part-time jobs. Under new regulations part-time employment has increased and allowed for a greater incorporation of women into the labour market. Finally, active labour market policies (ALMP) have been introduced to a wider extent. In general, employment policy had shifted from passive towards more active elements (see 4.6 for more details) (Tascón, 2000). [8]

4.4 The Outcomes: labour market indicators

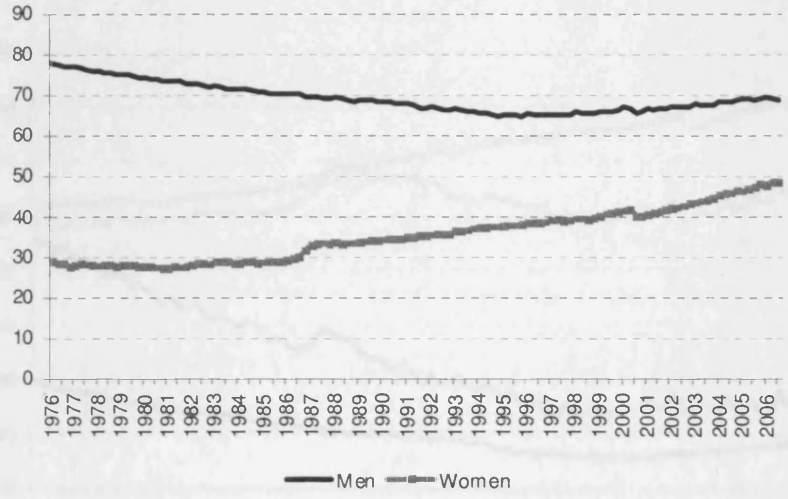
4.4.1 Labour supply and participation rates

The Spanish labour force participation rate has been rather stable for the last 31 years (i.e. since Franco's death). It tended to decline from the second half of 1970s and started to rise slightly in second half of 1980s. Since then it has been rising steadily from the level of 49% in 1986 to 59% at the beginning of 2007.

[8] For the detailed overview of the labour market reforms in Spain please see appendix 5.

Nonetheless, there have been significant differences between male and female participation rates as well as between particular age groups. Figure 9 shows us clearly the discrepancies between female and male labour participation rates.

Figure 9 . Participation rate by sex and period in Spain. 1976-2007.



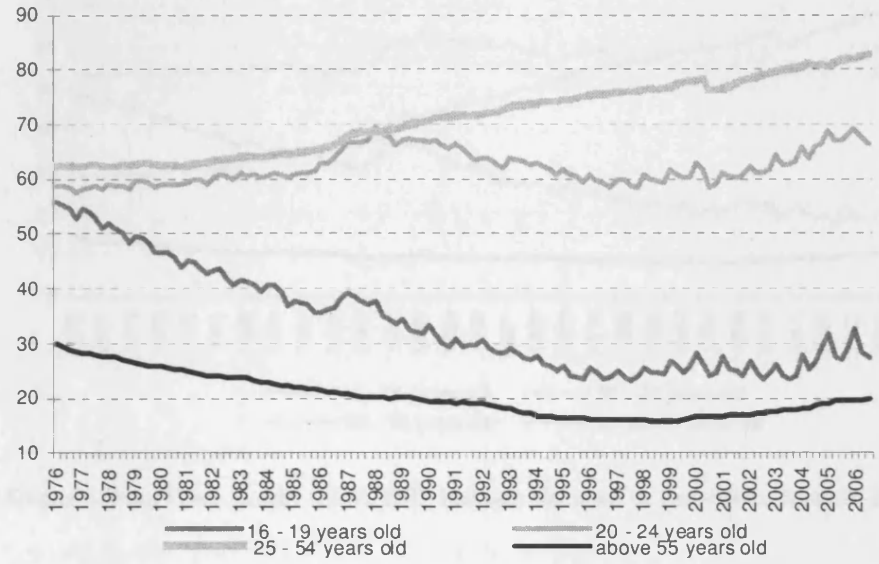
Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

In the female participation rate we can observe a constant increase from a level of 28.8% up to almost 45% in 2004. On the other hand, the male participation rate experienced a significant decrease from 78% in 1976 down to a level of 64% in 1997. Since then it has been growing slightly to a level of 67.5% in the second quarter of 2004.

There are also different trends in age groups. In Spain, participation rates of people under 25 started to decline in the mid-1970s, as a response to the economic crisis which hit the Spanish economy during the late 1970s and early 1980s. It corresponded to the increase in school enrolment at all levels due to the lack of jobs, and the

reduction of the opportunity cost of education. In the 1980s compulsory education was extended until 16 years (previously, 14) and universities started to develop all over Spain. Subsequently, despite the strong employment recovery in the late 1980s, school enrolment has kept on increasing until the time of writing.

Figure 10 Participation rate by age groups and period in Spain. 1976-2007.

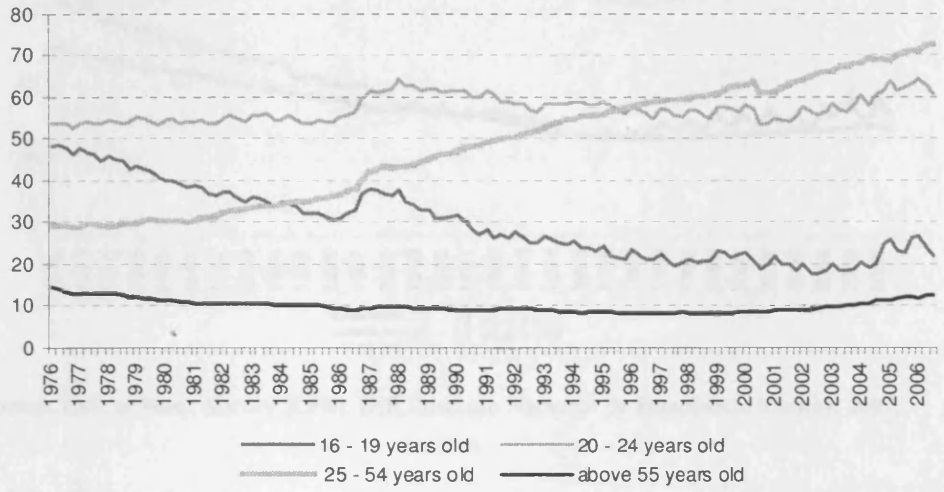


Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

As for female participation (see Figure 11) in the early 1980s it was regarded as pro-cyclical, (decreasing during recessions and increasing during booms). However, from the sociological point of view the situation was seen as being due to generational changes (Toharia, 2001). The increase in labour participation (and the decline in the birth rate) was one of the factors contributing to the situation. The most significant change in the female participation rate can be observed in the age group of 25-54. It has almost doubled from a level of 28% in 1976 up to 72% in 2007. A constant decline in participation rates has been observed in the age group above the age of 55 for both men and women until 2004, increasing slightly over the last two years. This is

due to the setting up of the retirement at age 65 along with early retirement schemes introduced by government.

Figure 11 Female participation rate by age group and period in Spain. 1976-2007.

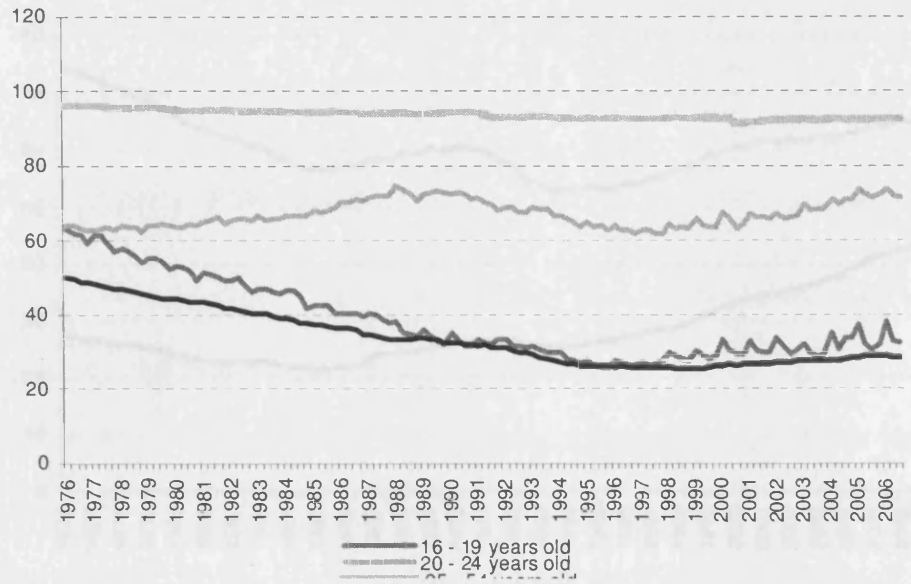


Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

As for the male participation rate, it also varies significantly between different age groups (see Figure 12). A similar pattern as seen for the female participation rate has been followed in the youngest and oldest age group. For the youngest group, the cyclical characteristic is more visible than in the case of women. We can observe that in the second half of 1980s, the participation rate for this group increased following better employment prospects but began to decrease again, as young people returned to education again due to deteriorating labour market situation.

Responding to the growing unemployment rate in the older people age group, in the early 1980s, specific early retirement sector plans were implemented. (Toharia, 2001).

Figure 12 Male participation rate by age group and period in Spain. 1976-2007.



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

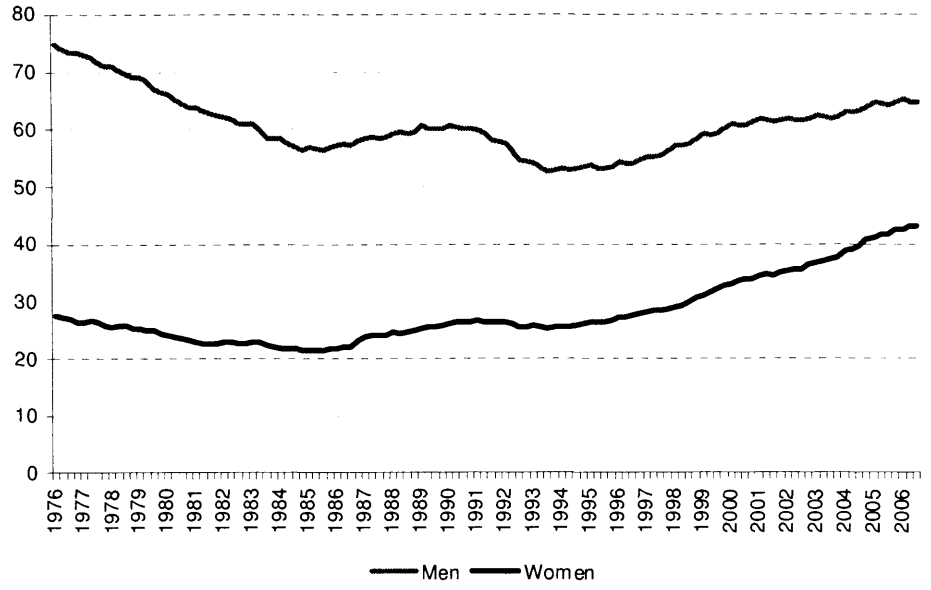
4.4.2 Employment

Since the transition in 1975, the Spanish economy has experienced significant shifts in employment structure. The changes have been both in terms of sectors, gender and regional distribution.

4.4.3 Gender cross-section of employment

In Figure 13 we can observe the cyclical character of the employment rate by sex. Women have experienced a greater increase in employment than men due to the reasons explained as above.

Figure 13 Employment rate by sex and period in Spain. 1976-2007.



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007

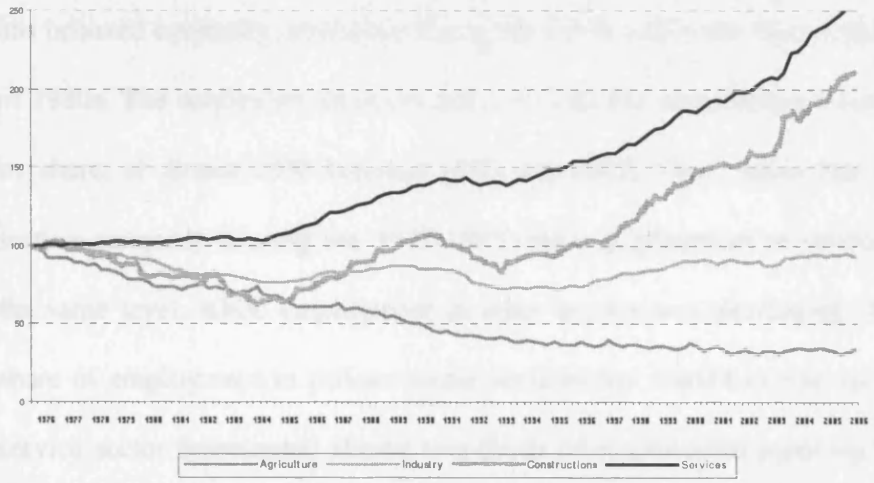
The employment rate in 1976 was 50% overall, 74% for men and 27% for women. All of these indicators were falling gradually as Spain moved towards EU accession in 1986, when the overall employment rate was only 39% with a male employment rate of 57% and a female rate of 21%. The government programmes, such as the strengthened Employment Promotion Programmes, led to the hiring of more than 1 million people in 1987, which constituted more than double the average of about 450,000 per year between 1979 and 1984. However, these programmes did not alter the level of joblessness. At the initial stage of EU membership employment rose steadily to decrease again at the beginning of the nineties. Overall male employment reached its all time lows between 1993-1994, plummeting to 39% and 52% respectively. After this date the Spanish labour market recuperated and there has been a sustained increase of employment levels. At the beginning of 2007 the overall

employment level reached 54%, male 65% and female 43%. However, it should be noticed that the male level has never recovered enough as to reach the levels seen at the beginning of the transition.

4.4.4 Sectoral cross-section

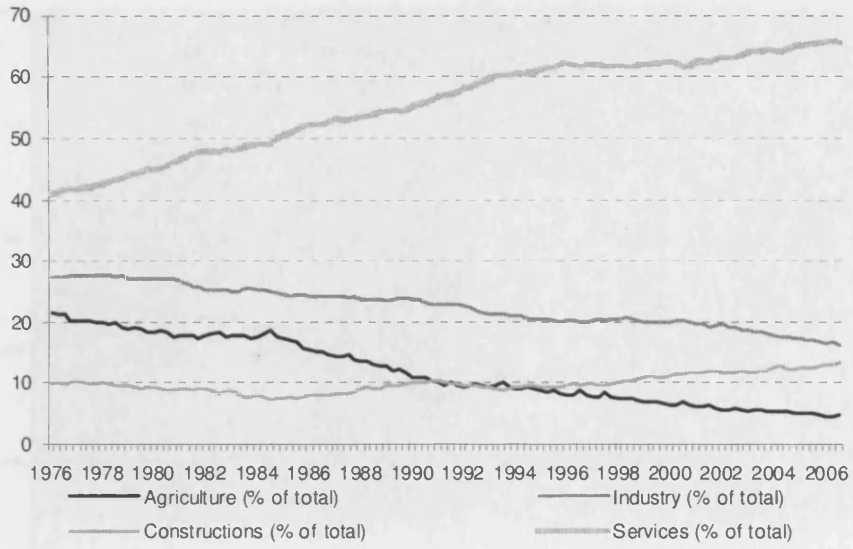
As for the sectoral division, there have been very significant shifts in its structure. Figure 14 shows the evolution of employed population by sector as a percentage change of the index base of the year 1976 and presents the employment rate by sectors in the period of 1976-2007. The sector, which has accounted for the strongest drop is agriculture. It has been historically a very important sector of the Spanish economy with a consistently higher employment rate. Nonetheless, due to the economic transition, it has experienced a very powerful downward trend from the level of almost 22% in 1976 down to 5% in 2007. This process was accompanied by a strong migratory flow to the cities, especially of young people and by those reaching retirement age, or going to early retirement, of those still working in agriculture.

Figure 14 Evolution of employment by sector division in respect to year 1976 = 100 as a base.



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

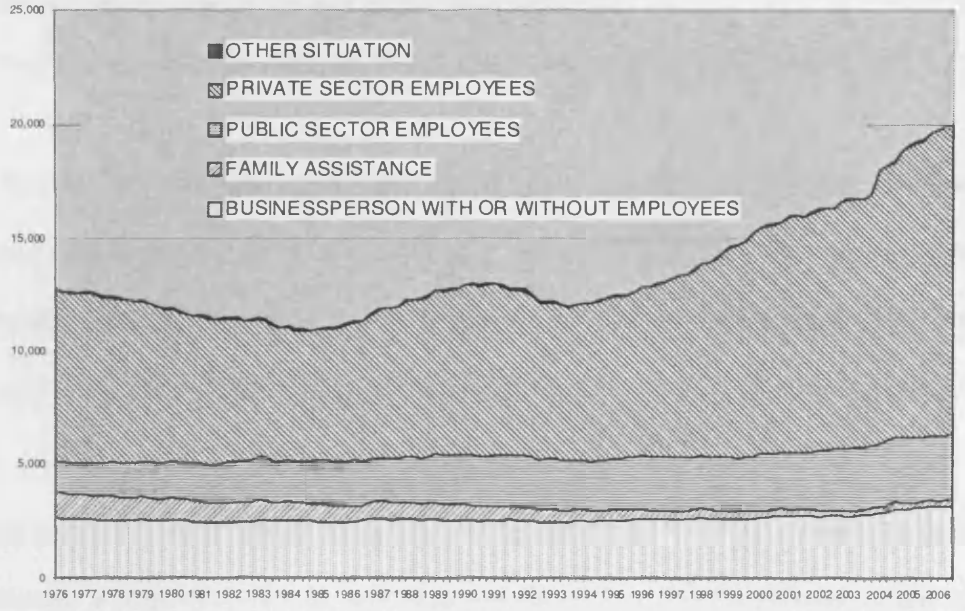
Figure 15 Employment rate by economic sector and period. 1976-2007.



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007

The strongest decline in the agricultural employment took place in the second half of 1980s coinciding with the accession of Spain to the European Union. The industry sector has also experienced a decline in its employment rate. It was not however as significant as in case of agriculture. The greatest falls coincided with the major industrial restructuring at the beginning of 1980s and 1990s. The construction sector has behaved cyclically, declining during the 1970s crisis and them again in the middle of 1980s. The service sector is the only one that has experienced a strong increase in its share, of almost 25% between 1976 and 2007. Thus, Spain has now become a service economy. During the 1977-1985 crisis, employment in services remained at the same level, while employment in other sectors was decreasing. After 1985, the share of employment in private sector services has started to rise very quickly. The service sector represented almost two thirds of employment recovery between 1985-1991. We can observe the evolution of this type of employment in Figure 16.

Figure 16 Evolution of employed persons with respect to type of employment. 1976-2007.



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

4.4.5 Unemployment

Spanish unemployment rates increased in the mid-1970s, after the first oil shock and the political transition and remained high until the mid-1980s. From a level of 4.5% in 1976, they increased to 21%, a year after the EU accession in 1986. With almost 3 million people unemployed in 1988, the official unemployment level of 20.5% was almost double the OECD average. These levels stabilised and decreased after 1986 to increase again to all time high levels of 24% in 1994. After this date the labour market has seen a sustained period of recovery with unemployment levels decreasing substantially (see Figure 17). At the beginning of 2007 the unemployment rate in Spain was at 8.5% close to the EU average unemployment rate.

Figure 17 Unemployment rate by sex and period in Spain. 1976-2007.

Error! Objects cannot be created from editing field codes.

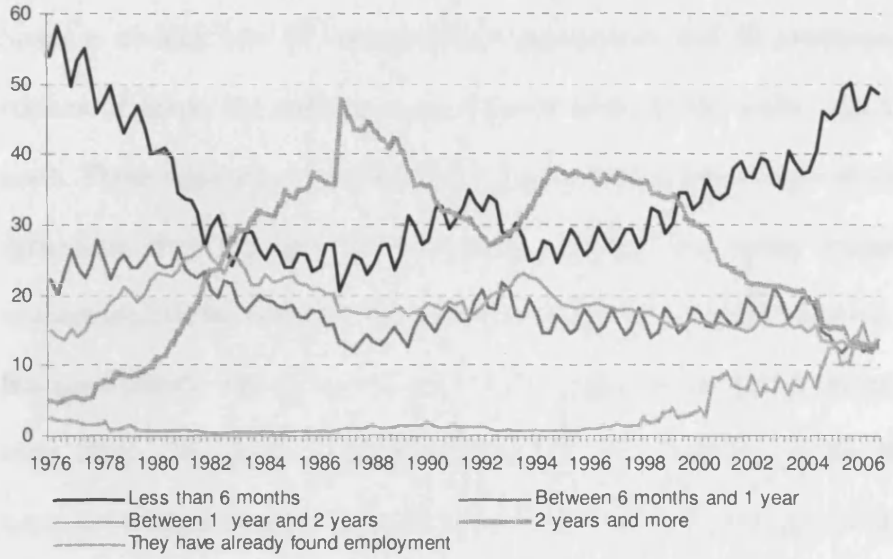
Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.[9]

As for the unemployment rates by gender, as mentioned when describing the participation and employment in Spain, female unemployment was about one-third higher than that for men. In 1987 female rates reached 28%, while male rates were only 16%. In 1994 the female unemployment rates was of over 31% and male 20%.

In terms of time of search for a new employment, the Spanish labour market has gone though a large evolution as well (see Figure 18). From the beginning of the transition period we can observe a sharp growth of the share of long term unemployed in total unemployed. At the moment of EU accession it reached almost 65% of all unemployed to fall back towards the end of the decade. However, in the period of the highest unemployment levels in Spanish history in 1994, it did not increase to the levels of the 1980s. Since then it experienced a very substantial drop. At the time of writing in mid 2008, those unemployed for one year or more accounted for around 25%, which is one of the lowest levels in the EU.

[9] Labour Force Survey (LFS) The survey's main objective is to collect quantitative data on the economic activity of the population by sex, age, education level, occupation, etc. The LFS, conducted since 1964, is a continuous quarterly sample survey, targeted at family households. The sample size is approximately of 66,000 dwellings, which means obtaining information from about 200,000 people. Data is collected by means of personal interviews.

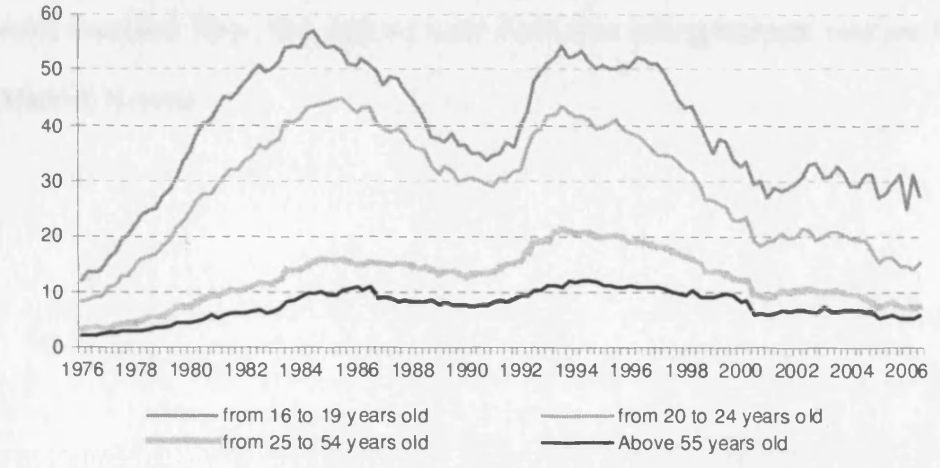
Figure 18 Unemployed by the search time for new employment (% of total). 1976-2007.



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

In terms of unemployment rate by age groups, youth unemployment was particularly high. The under-25 age group accounted for nearly 55% of all unemployed in the mid 1980' and mid 1990'. Thus the increasing participation of young people and women in the work force contributed to a persistence of high unemployment in the economy of the late 1980s. (Dolado and Jimeno, 1995).

Figure 19 Unemployment rate by age group and period. 1976-2007.



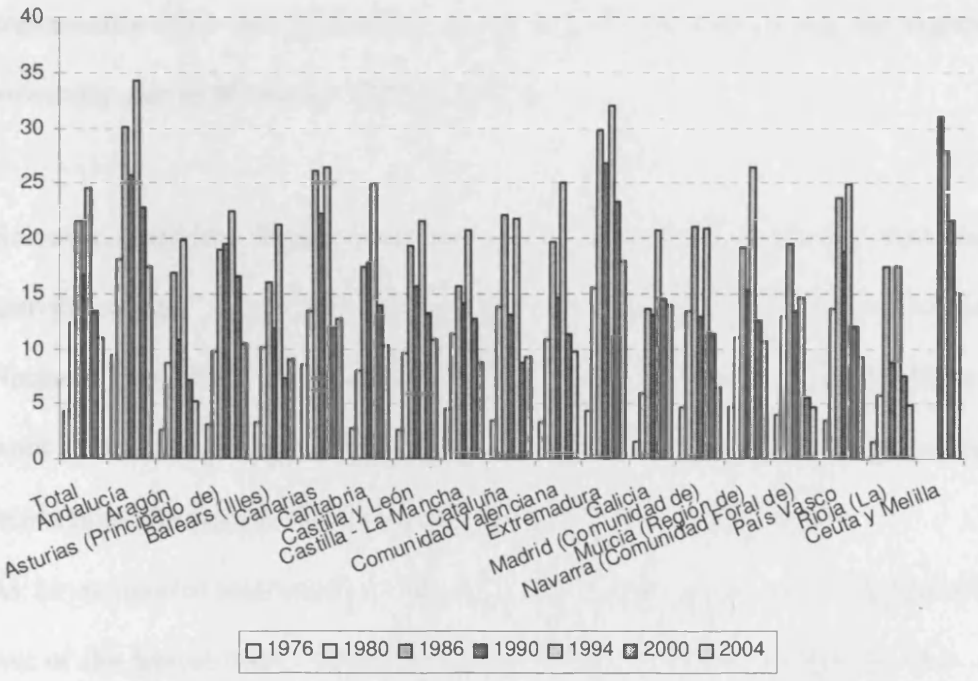
Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2007.

4.4.6 Regional divisions

Spain is divided into 17 Autonomous Communities and 50 provinces. The poorer regions of Spain are Andalucia and Extremandura in the south, and Galicia in the north. These regions have always had a proportionally larger share of employment in agriculture than the rest of the country. Mining and heavy manufacturing are concentrated in the north of the country in provinces such as Cantabria, Asturias and Basque Country. These regions underwent significant industrial restructuring in the early 1980s. The most developed communities are Catalonia on the Mediterranean coast and Madrid. Regions that have been experiencing a rapid growth due to services development are the provinces at the coast such as Catalonia, Murcia, Valencia, Navarra, together with La Rioja, Canary Islands and Balearic Islands.

As for regional participation rates, strong differences can be observed. The Balearic Islands (63%) and Catalonia (59%) have the highest participation rate, while Extremadura (51%) and Andalucia (52%) have the lowest. Even more telling differences can be observed in regional unemployment rate. The highest level of unemployment has been always associated with Andalucia and Extremadura where the rates exceeded 30%. The regions with the lowest unemployment rate are Catalonia, Madrid, Navarra.

Figure 20 Unemployment rate by Autonomous Communities and period. 1976-2004 (selected years)



Source: Labour Force Survey (LFS), INE, Instituto Nacional de Estadistica, Madrid, 2004

4.5 Labour mobility

Job turnover is very high in Spain (at the time of writing in mid 2008), as firms hire people on a very short-term basis. To a certain extent the reason for this is the ease with which short-term contracts may be used.

On the other hand, the willingness of unemployed workers to move geographically is low. This may be attributed to various factors: underdevelopment of the rented housing market, high housing prices, the social importance of family links to the place of origin, instability and low wages at destination. Interregional migration rates,

around 0.5% of the population, are about a half lower in Spain than in other European countries (Bentolila and Jimeno, 2003).

Spain has a high home ownership rate (76%). Home ownership in Spain has increased dramatically since the 1960s until by the end of the 1990s it has the highest home ownership rate in the world (Oswald, 1997).

However, there is a highly developed labour market for seasonal workers linked to tourism, notably in the Baleares and along the Mediterranean Coast (especially the Northern part), filled by temporary migrants from the South of Spain. These people work 6 or 7 months, earning good money (part of it going undeclared) and then they return home for winter, having the right to unemployment benefits.

As far as internal migration is concerned, Blanchard (1995) notes that Spain displays one of the lowest rates of regional mobility of all OECD countries (p.132). Antolin and Bover (1997) report that "migration does not seem to be working as a mechanism for alleviating the very high levels of unemployment in Spain" (1997, p.230). They also find that higher than average unemployment in Spain barely induces unemployed workers to migrate. The same view is shared by Gonzalez and Puebla (1996) showing that during the 1980s less than 1 per cent of the population moved regions, falling to a minimum of 0.45% in 1981. In the period starting after EU accession in 1986, migration trends increased annually to affect 1.76% of the population by 1990, while unemployment fell. They go on to argue that the "two distinct periods in migration patterns coincide exactly with the turning point in the Spanish economy during the 1980s, when there was an economic crisis and structural adjustment up until 1986, followed by a very strong growth situation in the second half of the decade" (1996, p.180). Bentolila and Dolado (1991) note that inter-provincial migration flows have

followed a U-shaped path since the 1960s. The interregional migration rate declined steadily through the 1960s in Spain from an average of 1.22% in 1962-9 to 0.92% in the 1976-1986 periods and started to rise again from 1992.

4.6 Active and passive labour market policies in Spain

As reported in the OECD Employment Outlook, the distribution of public expenditure on employment policy in Spain over the period 1991-2000 shows that it is markedly biased towards passive policies. Active policies currently account for around 1% of GDP. Social policies in Spain are undeveloped. In 2001 the ratio of social protection expenditure to GDP was 27.3% for the EU15 and 20.1% for Spain. However, as mentioned in section 3.5.2 on Polish ALMPs and in Table 12, the EU average of ALMPs as a % of GDP is very similar and Spain is in the middle range of the EU countries, while in Poland the indicator is much lower.

At the beginning of the transition, social expenditures increased to meet, to some extent, the higher demand for social protection. In particular, the coverage and duration of unemployment benefits and participation in early retirement schemes were extended to provide income support to displaced workers. This resulted in high long-term unemployment and a drastic fall in the employment rates of the population close to the legal retirement age (Jimeno, 2001, Chozas, 2000).

In the composition of social protection expenditures in Spain, unemployment benefits amount to more than 2% of GDP (in 2001), despite reforms in 1992 and 1993 which restricted eligibility criteria and lowered replacement rates (unemployment benefits amounted to 4.1% of GDP in 1991, 5.2% of GDP in 1993).

In addition to reducing both the level and period for receiving unemployment benefits, Spain also moved toward activating benefits by trying to increase the employability of job-seekers, mainly though training.

Expenditures on old-age pensions amount to almost 9% of GDP. Early retirement schemes very often connected to labour shedding in sectors with declining demand or going through a technological upgrading, were one of the main factors driving the evolution of pension expenditures. (Jimeno 2001)

Unemployment benefits have been established in Spain since 1961 and consolidated in 1984. In 1993 benefits became taxable. The 1992 reform was a turning point, reinforced by the short employment durations caused by temporary employment. Benefit coverage, which had risen from 23% in 1984 to 50% in 1992, fell again to around 37% in 2001 (Bentolila and Jimeno, 2003).

The Spanish government has focused its labour market efforts more on increasing flexibility than on activating unemployed people (Chozas, 2000; González- Calvet, 2002). Nonetheless, it has shown a concern with fostering employment through active policies. However, as mentioned earlier, when describing the situation in Poland, the ALMP still amount to less than 1% of GDP.

As for the active measures, the policies applied in Spain include: training, youth oriented measures, subsidies towards direct employment creation and measures for disabled people. However, labour market training is considered as the most important type of the labour market policies in Spain. (Toharia, 1997, Jimeno and Bentolila, 2003)

4.7 Conclusions

The post-Fascist Spanish labour market has gone through a transformation over the last thirty years not dissimilar to that experienced by the post-Communist Poland. It experienced a long period of a very high unemployment caused by factors such as the political transition accompanied by macroeconomic instability, oil shocks, outdated products market and above all labour market rigidities and obsolete institutions inherited from the Franco regime. Spain had one of the most rigid employment protection laws in the EU. Parts of the framework included extended unemployment benefits, the considerable bargaining power of insiders in wage setting, and a segmentation of employment between permanent and temporary workers, which all contributed to unemployment.

Spain's initial political, demographic and economic conditions were very similar to those of the post communist Poland, except much lower initial participation rate of women. In addition, the post-liberalisation labour market trajectory reveals a striking resemblance to the Polish transition path, with the initial period of intensive restructuring, subsequent period of recovery, a short slow-down caused by external shocks, and the final stage of stable growth. As a result of some major labour market reforms the policy makers managed to reduce the Spanish unemployment rates substantially in the most recent period. The Spanish unemployment experience shows that inadequate labour market institutions can lead to very high unemployment rates, but also that the trend can be reversed through the adequate reforms. Some limited labour market reforms in the middle of the first decade of 2000s in Poland offer hope that the latter country may follow a similar path.

Chapter 5 Regional labour market dynamics. Vector Autoregression Analysis (VAR)

This chapter investigates the regional labour market dynamics in Spain and Poland. It shows to what extent regional employment, unemployment and participation rate dynamics are common to all regions in Spain and Poland. It also compares these results with those obtained by Blanchard and Katz (1992), Decressin and Fatas (1995) who investigate labour market dynamics in US and EU and Jimeno and Bentolila (1998) who research the Spanish labour market.

5.1 Introduction

This chapter builds on the research undertaken by Blanchard and Katz (1992) on regional (state-specific) evolutions in the US, followed up by Decressin and Fatas (1995), who used a sample that contains EU regions and countries. All together they include 51 regions: 8 for France, 8 for Germany, 11 for Italy, 7 for Spain, 11 for the UK. Belgium, Denmark, Greece, Ireland; the Netherlands and Portugal are treated as single regions.

Extending their approach, this chapter analyzes developments of regional labour markets in Poland and Spain since their transition to democracy and open market. As mentioned in Chapter 1, the labour markets in both countries have undergone a similar transition. From the labour market perspective, the initial Fascist-Corporatist economic system had some common characteristics with the Communist command economy in Poland. Not only the labour market institutions were similar, but the labour market composition was alike. The two countries also experienced very similar problems after the transition started. At the same time, as suggested by Blanchard and

Katz (1992), it can be assumed that the dynamic mechanisms at work on regional level are largely the same and therefore a similar framework can be applied to other countries/regions, even if the parameters of the corresponding adjustment functions may differ significantly due to different structural features.

The data available for Spain include the period 1976-2004 and for Poland, due to the data unavailability from the beginning of the transition, the post-transition period of 1999-2004. In both cases quarterly data was used. I concentrate on investigating the extent to which labour market shocks[10] are shared by all regions and how regional employment, unemployment and labour force participation adjust to labour demand shocks which are region-specific. Then, the obtained results for both countries are compared with each other in order to discuss the similarity of labour market behaviour in these two countries.

5.2 Vector autoregression models (VARs)

VARs are dynamic systems of equations that examine the inter-relationships between economic variables, using minimal assumptions about the underlying structure of the economy. They aim to provide good statistical representations of the past interactions between variables. SVARs (structural vector autoregressions) represent an intermediate method between basic VARs and the more structural approach of

[10] A regional shock, as in Decressin and Fatas (1995), is defined as a shock to a variable which equals the logarithm of regional employment minus the logarithm of country-level aggregate Spanish/Polish employment. They follow pioneering research of Blanchard and Katz (1992). A more detailed presentation of this framework can be found in their paper. As indicated by the authors, the framework's advantage is in its wide application to different markets, as it can be assumed that the dynamic mechanisms at work are largely the same. However, it cannot determine directly, what ***should be*** the response to shocks for movement of workers or jobs.

traditional macroeconometric models: they combine the statistical methodology of basic VARs with a number of widely accepted restrictions derived from economic theory, and aim thereby to VARs as dynamic systems of equations in which the current level of each variable in the system (e.g. GDP, unemployment and official interest rates) depends on past movements in that variable and in all the other variables in the system. In contrast with traditional models, basic VAR systems make few assumptions about the underlying structure of the economy.

A VAR system can be expressed in the following form:

Equation 1 $$Z^t = A_1 Z^{t-1} + A_2 Z^{t-2} + \ldots + A_p Z^{t-p} + \varepsilon t$$

where Z^t is a vector of endogenous variables at time t, Ai (i = 1, ..., p) are coefficient vectors, p is the number of lags included in the system, and εt is a vector of residuals. The residuals, εt, represent the unexplained movements in the variables, reflecting the influence of exogenous shocks (i.e. shocks that arise outside the assumed model). The residuals represent a composite of the various exogenous shocks affecting the endogenous variables in the underlying structural model. It is not possible, therefore, to derive any economic interpretation from the residuals without transforming equation.

Since the seminal work of Christopher Sims (1980) vector autoregressions (VARs) have been widely used to address the following macroeconometric tasks: data description, forecasting, structural inference (effects of economic shocks) and policy

analysis. Vector autoregressions are now a standard part of the applied econometric tools. While their interpretation in terms of causal relationships remains controversial, most researchers would agree that vector autoregressions are very useful means of summarizing time series (Holtz-Eakin, 1988). VARs have been used mostly to analyze macroeconomic time series, including labour market related, where there are many observations. (See, e.g., Taylor (1980), or Ashenfelter and Card (1982)). In addition, as mentioned in section 5.1, this research is based around the framework elaborated by Blanchard and Katz (1992).

5.2.1 VARs and structural VARs

If movements of the endogenous variables within a VAR system are viewed as reflecting the effects of exogenous shocks, the VAR can be used as a tool to examine these shocks. The error terms in a basic VAR are complex functions of the shocks hitting the system, and have no economic interpretation. However, the different shocks and their effects can be disentangled. This is achieved by placing identifying restrictions on the VAR to transform it into the 'structural moving-average' representation shown in the following equation:

Equation 2 $$Z^t = C_0^{et} + C_1^{et-1} + C_2^{et-2} + C_3^{et-3} + \ldots\ldots + C_m^{et-m}$$

In Equation 2, C_k ($k = 0, \ldots, m$) represent vectors of parameters determining the current and lagged effects of the shocks, $et\text{-}k$ ($k = 0, \ldots, m$), on the endogenous variables.

SVARs represent an intermediate approach between the almost purely statistical method of basic VARs and the more structural approach of traditional econometric models. An important difference between traditional models and SVARs is that, whereas the former focus directly on the relationships among economic variables,

SVARs try to obtain information about the shocks driving movements in the endogenous variables and then use this information to make inferences about the co-movements between them.

5.3 Common Labour Market Disturbances

Section 5.3.1 of the chapter introduces the regional decomposition, data and variables used. Section 5.3.2 shows an overview of the Polish and Spanish labour market regional differences. It also investigates to what extent quarterly changes in employment have been common to all regions in Spain and Poland and how similar the response of regions to such common changes has been. Decressin and Fatas (1995) in their research comparing Europe and US discovered that there is an equal or greater difference in response to common changes across regions in Europe than across states in the US. Explanations for this finding are that different countries practice different macroeconomic policies in Europe and there is also more heterogeneity among the European regions than amongst the US ones. Moreover, in Europe, unlike in the US, the proportion of annual changes in employment that are common across regions is considerably smaller than the proportion of region-specific changes. And in the case of Spain and Poland, the proportion of the common changes in employment is very low even when compared with the European average.

In Section 5.3.3 region-specific labour demand shocks are identify and the sizes and repercussions of region-specific labour market disturbances in employment investigated. According to Decressin and Fatas (1995) the main difference between Europe and the US is that region-specific shocks to employment, although similar in initial size, have much stronger long-run effects in the US. In turn, the response of

relative employment level to employment shock is stronger in Poland than in Spain. It is mostly due to the initial reaction to the shock being much stronger in Poland than in Spain, even if it falls substantially, losing half of the value of the shock over 3 quarters. However, the resulting long run effect in Poland is still larger than in Spain.

In Section 5.3.4 and 5.3.6 the reaction of unemployment rate and labour force participation in response to the identified shocks is measured. Decressin and Fatas (1995) conclude that if the extent of a region-specific shock in the demand for labour is not reflected in a change of the unemployment or labour force participation rate, it must have been absorbed by migration. In the case of Europe they observe that in the first three years most of the labour demand shock is reflected in changes in regional participation rates. In the US labour force participation reacts to a much smaller extent and migration responds to a much larger extent than in Europe. Nonetheless, both in Europe and the US, the unemployment rate changes only to a small extent and transitorily, suggesting the presence of region-specific natural rates of unemployment. In the cases of Poland and Spain the reaction of the unemployment rates is ten times higher than in the case of the European region of EU15 specified by Decressin and Fatas (1995) while the reaction of participation rate is very weak.

5.3.1 Framework and region-specific variables

The main purpose of this section is to evaluate the extent to which labour market disturbances in Poland and Spain are distributed symmetrically across regions.

The three regional variables examined are: employment growth Δn, with n being the logarithm of employment, the unemployment u and labour participation rates pa,

similarly to the earlier mentioned authors. To measure the degree of persistence of national and regional absolute variables, and of deviations of the latter from the national average, I run unit-root tests using the augmented Dickey–Fuller (ADF).

Because I am interested in analyzing the effects of regional labour demand shocks I need to identify them in some way. Following Blanchard and Katz (1992) I associate the "unexpected changes in regional relative employment within the year with changes in labour demand, which is a plausible assumption as long as the largest fraction of these unexpected changes is not due to exogenous changes in labour supply or migration. Consequently, allow current changes in relative employment to affect unemployment and participation rates but not vice-versa." (p.1644)

The Framework followed and underlying the empirical analysis of regional shocks is taken from Blanchard and Katz (1992). To determine the extent to which quarterly changes in employment, unemployment and participation rate are common to all regions in Poland and Spain, following Blanchard and Katz (1992) and Decressin and Fatas (1995), I estimate regression of regional employment growth rate, unemployment rate and the logarithm of the participation rate on the same variable on national level, for both of the countries as follows:

Equation 3 $$\Delta \log(N_{it}) = \alpha_{1i} + \beta_i \Delta \log(N_{et}) + \mu_{1it}$$

Equation 4 $$U_{it} = \alpha_{2i} + \delta_i U_{et} + \mu_{2it}$$

Equation 5 $$\Delta \log(P_{it}) = \alpha_{3i} + \xi_i \log(P_{et}) + \mu_{3it}$$

where N_i, stands for employment in region i and N_e, for employment in Spain/Poland, subsequently U for unemployment rate and P for participation rate.

The region-specific variables are estimated in the same way as in Decressin and Fatas (1995), given by the residuals of the regressions shown in Appendix 1, Table 35, i.e.:

- For regional relative to national employment growth I estimate:

Equation 6 $$\Delta n_{it} = \Delta \log(N_{it}) - \hat{\beta}_i \Delta \log(N_{et})$$

- For relative to national unemployment rate I estimate:

Equation 7 $$u_{it} = U_{it} - \hat{\delta}_i U_{et}$$

Where U_i denotes the regional unemployment rate and U_e the national unemployment rate.

- For regional relative to national labour force participation rates I estimate:

Equation 8 $$p_{it} = \log(P_{it}) - \hat{\xi}_i \log(P_{et})$$

Where P_i stands for the regional labour force participation rate (labour force divided by the working-age (15-64) population) and P_e for the national labour force participation rate. This measure was taken as a logarithm.[11]

5.3.2 Regional differences

From the estimations of regressions of the regional employment growth rate, unemployment rate and the logarithm of the participation rate (Equation 3, Equation 4, Equation 5) I found that in Spain average R^2 for the employment regressions equals 0.32 (0.10 in a pool sample) and in Poland 0.17 (0.22 in a pool sample). On average 32% of the changes in regional employment are shared by all regions in Spain and

[11] The results based on levels were insignificant.

17% in Poland. Similarly, Decressin and Fatas (1995) found that the average R^2 for the employment regressions equals 0.20 in Europe and 0.60 in the US. Hence, on average only 20% of the year to year changes in regional employment are shared by all regions in Europe, whereas in the US 60% of the changes are common to all the states.[12]

As for the unemployment rate, in Spain the average R^2 for the unemployment rate regressions equals 0.89 and in Poland 0.74, which means that on average 89% of the changes in regional unemployment rate are shared by all regions in Spain and 74% in Poland. The results from a pool sample for both countries amount to 0.99.

Similarly to the unemployment rate, the participation rate results show great persistence in both of the countries, where R^2 from a pool sample for both countries amounts to 0.99. In Spain average R^2 for the participation rate regressions equals 0. 65 and in Poland 0.46, which means that on average 65% of the changes in regional participation rate are shared by all regions in Spain and 46% in Poland.

In both Poland and Spain we can observe strong differences at the regional level of a similar pattern. In Poland coefficients for employment vary between -2.2 (Opolskie) and 6.3 (Slaskie) which also has the highest R^2 (0.588) and both are regions with relatively low unemployment. The Slaskie voivodeship is a very big region in Poland constituting 12% of labour force.[13] In the case of the Opolskie voivodeship an interesting reaction can be observed, which indicates that the employment dynamics

[12] For more detailed results on employment, unemployment rate and participation rate regressions see Appendix 1(detailed regional results and average results) and Appendix 2 (pool results)
[13] The detailed breakdown of Spanish and Polish population by regions can be found in Appendix 3

were negatively correlated with the rest of the country. Opolskie is the border region close to Germany, therefore it might be responsive to German unemployment rates. The lowest R^2 for employment can be observed in regions suffering from high unemployment like Zachodniopomorskie (0.003), Warmińsko-Mazurskie (0.042), Podkarpackie (0.009), which proves just how low is the % of changes that these regions share with all the regions.

In Spain the highest and the lowest employment coefficients can be observed in the regions with the worst labour market situation such as Andalucia (1.432) and Galicia (0.575), but in general the regional differences are less diversified than in the case of Polish voivodeships. The regions with the lowest unemployment and most stabilised labour market, have employment coefficients closest to unity (Madrid- 0.922, Catalonia-1.026, Comunidad Valanciana-1.082) However, we have to take into consideration that this may be just a statistical artefact, as there is a large share of Spanish employment in these three regions implying a higher correlation.[14] R^2 for employment in Spanish autonomous communities is highest in Catalonia (0.583) and wealthy Comunidad Valenciana (0.548) and the lowest in the traditionally poor southern regions of Spain like Extremadura and Galicia (0.205). The lowest level can be also observed in the northern region of Cantabria (0.102), which suffered from high unemployment due to mining restructuring.

[14] Population of Cataluna constitutes 15% of the total Spanish population, of Comunidad Valenciana 10% and Madrid 13%. For more details please see: Appendix 3

5.3.3 Univariate response of employment to employment shock

The null hypothesis is that there is a unit root (non-stationarity) in relative employment. After Decressin and Fatas (1995) and Blanchard and Katz (1992) I test for this hypothesis by running the following regression:

Equation 9 $$\Delta n_{it} = \alpha_{1i} + \alpha_{2i} n_{it-1} + \alpha_{3i} n_{it-2} + \eta_{it}$$

n_{it} is defined as explained in 5.3.1. Applying the Augmented Dickey-Fuller test[15] for unit root[16] at levels with 2 lags and intercept, I could reject the null hypothesis for 15 out of 17 regions in Spain at 1% significance and for 16 regions at 10% significance. At 1st differences I could reject the null hypothesis in all 17 regions. In Polish regions the null hypothesis of a unit root at levels was rejected in 11 out of 16 regions at 10% significance and in 1 out of 16 regions at 1% significance. At 1st differences I could reject it for 15 out of 16 regions at 10% significance. It is satisfactory that in case of Spain the rejection of unit root provides a solid ground for further analysis. However, in the case of Poland the non-stationarity of the data in 5 out of 16 regions (when a stronger 1% threshold is applied) may suggest some degree of caution when interpreting the results.

Next, I estimate the univariate process followed by regional relative employment growth in Spain and Poland. Over the period 1976-2004 for Spain and 1999-2004 for Poland, allowing for two lags, I run the following regression:

Equation 10 $$\Delta n_{it} = \alpha_{1i} + \alpha_2 \Delta n_{it-1} + \alpha_3 \Delta n_{it-2} + \eta_{it}$$

[15] The Dickey-Fuller (DF) test tests whether a unit root is present in an autoregressive model. The augmented Dickey-Fuller test (ADF) removes all the structural effects (autocorrelation) in the time series and then tests using the same procedure as DF (Dickey and Fuller (1979).

[16] If the time-series is stationary (do not contain a unit root), then it has a tendency to return to a constant (or deterministically trending) mean. Accordingly, the level of the series will be a significant predictor of next period's change. If the series contains unit root, then changes will occur with probabilities that do not depend on the current level of the series.

It pools the entire sample per country and allows for region-specific fixed effects. n_i stands for the logarithm of employment in region i minus the β-adjusted logarithm of national employment in each of the countries. Table 15 shows the results and Figure 21 the impulse response function of employment to a one standard deviation shock (standard deviation of regression from the pool sample). For detailed results see Appendix 2.

Table 15 Regional relative employment growth, pooled sample[17]

Δn_{it}	Δn_{it-1}	Δn_{it-2}
Spain (17 regions)	0.011546 (0.022988)	-0.298074 (0.022982)
Poland (16 regions)	-0.456308 (0.063801)	-0.194549 (0.063852)

Table 16 Regional relative employment growth. Results for EU and US states for the period of 1966-1987 by Decressin and Fatas (1995)

Δn_{it}	Δn_{it-1}	Δn_{it-2}
EEC (51 regions)	-0.0017 (0.0371)	0.0466 (0.0372)
US (51 regions)	0.6481 (0.0333)	-0.0845 (0.0354)

From the estimation of Equation 10 we can observe that employment in both Spain and Poland is scarcely persistent with R^2 for Spain of 0.10 and 0.22 for Poland. There is a negative relation between the present and the past values of employment growth in Poland (coefficient in lag one of -0.46). In Spain we can observe a very weak positive coefficient in lag one (0.01) indicating poor impact of the past value of employment in relation to the present value. In the lag 2 in turn, similarly to Poland the coefficient is negative. Therefore the positive effect of the shock is being lost. In lag 2, the coefficient for Spain amounts to -0.30 and -0.20 for Poland, showing the reverse effect of the shock.

[17] Standard error in parenthesis.

From Figure 21 we can see that the response of relative employment level to employment shock is stronger in Poland than in Spain. It is mostly due to the initial reaction to the shock being much stronger in Poland (three times higher) than in Spain, even if it falls substantially starting from the second period. The overall long run effect in Poland is higher as well as the shock (0.056). It stabilises at the long run value of 0.034. In Spain it stabilises at the level of 0.015, while the initial shock has the value of 0.02. This shows that a large part of an immediate, potentially very positive effect in Poland is lost, probably primarily due to lack of (internal) migration. The policy makers should make efforts to maintain the positive effects of the shocks, as it occurs in the US or European states (see Figure 22). A similar pattern may be observed in Spain, but at a smaller scale than in Poland, as overall more adjustments have taken place than in Poland.

In turn for the US, Blanchard and Katz (1992) report, the persistence of employment growth, which is reflected in the initial shock of 1.5 percentage points and the long run effect of 3.4 percentage points. For the EU according to Decressin and Fatas (1995), the initial shock has the value of 1.7 percentage points and it stabilises at the same level in the long run (see Table 16). They explain this as a result of a stronger response of interregional migration flows to labour demand shocks in the US. In Europe the initial shock does not produce an initial growth like it does in the US.

To sum up, the most positive response to the shock can be observed in US, followed by EU average. In Poland, even though the initial shock is the highest, the positive effect in lost by half. The Spanish response falls between European average (51 European regions of EU-15 defined by Decressin and Fatas) and Poland.

Figure 21 Univariate response of employment to one standard deviation shock. Pooled sample for Poland and Spain

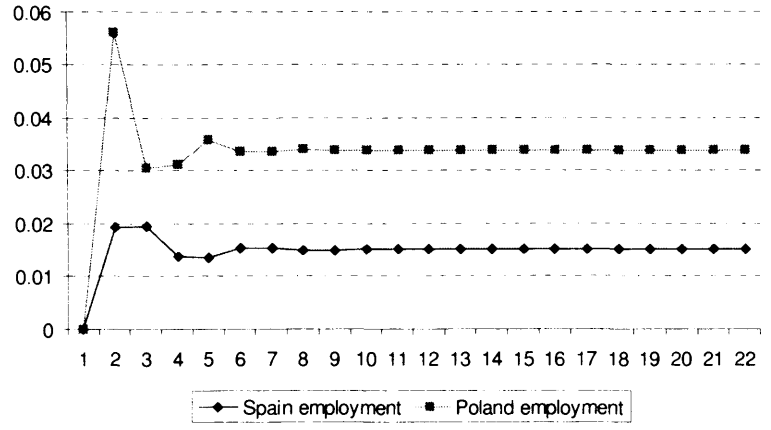
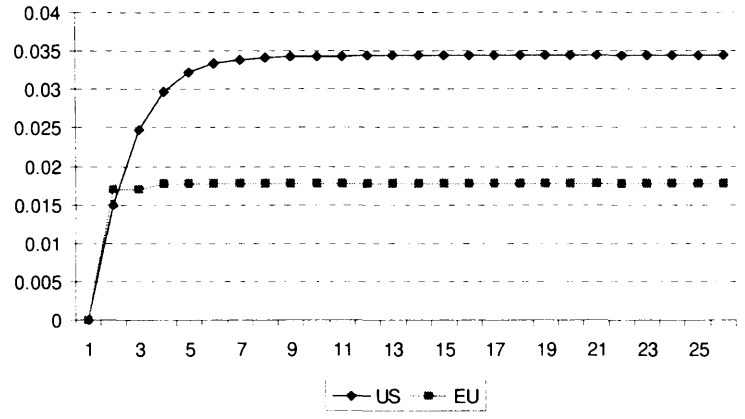


Figure 22 Univariate response of employment to one standard deviation shock. Pooled sample for US and EU according to Decressin and Fatas (1995).



5.3.4 Trends for the unemployment rate in Poland and Spain

The aim of this section is to briefly indicate what were the trends in the regional unemployment rates in Poland and Spain and to provide some more background to the further analysis of unemployment persistence.

An informal behaviour of relative unemployment in Spain is provided in Figure 23, which presents correlation between the regional unemployment rates minus the

national unemployment rate U between (a) 1976 and 1986 (year of EU accession, with one of the highest unemployment rates in Spanish history), (b) 1986 and 2004 and (c) the long run comparison between 1976 and 2004 annual averages. The Polish case in presented in Figure 24. Only one regression is run between the periods 199-2004, due to the shorter time series available. All coefficients are significant.

The fitted regression line indicates that unemployment rates in the Spanish regions grew substantially between 1976 and 1986 (chart a) from an average between all the regions of 4.1 to 19.6. The regression line has a slope of 1.7 (with a standard deviation of 0.32). R^2 for regression between these periods is at a high level of 0.66. For 1986 and 2004 (chart b) we can observe a recovery with a slope of the regression line of 0.47 (with a standard deviation of 0.15), showing more regional desegregation. R^2 for regression between these years is at a lower level of 0.39. The third graph for 1976 and 2004 shows much higher stability with the slope of the regression line of 0.93 and R^2 for regression of 0.34 (with a standard deviation of 0.33).

Even though we are looking at different periods (much longer than in the case of Poland) it is interesting to see a similar trend as in Spain for the periods of 1976 and 2004 (chart c) period in Spain, can be observed in Poland in the period of 1999 and 2004 (Figure 24), where the unemployment rates remained stable, with the slope of the regression line of 0.85 (with a standard deviation of 0.20) R^2 for regression between these periods is at a higher than in Spain level of 0.55.

All this shows that the regional differences are more pronounced in Poland than in Spain, which additionally reinforces the results from my empirical work presented

earlier in this chapter. As highlighted in the section 5.4, this could indicate that the Polish transition amplified regional differences far more than the Spanish transition did.

Figure 23 Regional relative unemployment rate in Spain in periods (a) 1976-1986, (b) 1986-2004, (c) 1976-2004 (annual averages).

(a)

(b)

(c)

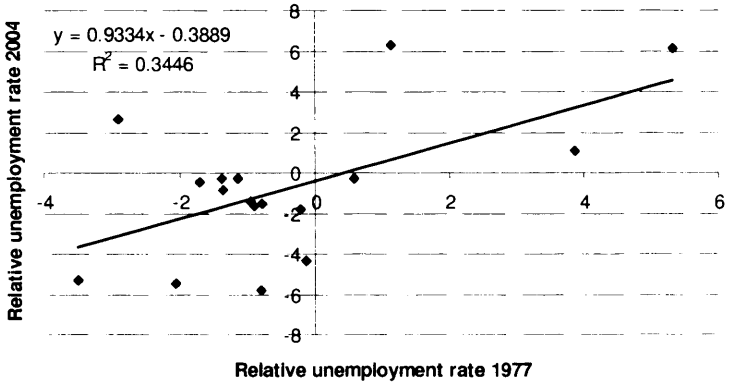


Figure 24 Regional relative unemployment rate in Poland in periods of 1999 and 2004 (annual averages).

The results for Europe and US from Decressin and Fatas (1995) for 1968 to 1987 show for the 15 European states of EU15 a slope of regression line of 1.09 (with a standard deviation of 0.28) and the R^2 of 0.23. For the US the slope of the regression line is 0.67 and the R^2 equals 0.38. An important problem with the regression for 51 European states of EU15 may be that unemployment is measured differently across countries in Europe.

Also, the estimation for the European regions was made over the period from 1968 to 1987. They found an R^2 of 0.01 and a slope of 0.20. However, this result was almost entirely driven by the Spanish regional unemployment data, and upon excluding them

the slope rose to 1.18 (with a standard error of 0.26) and the R^2 equalled 0.32. They concluded that differences in relative unemployment rates between regions seem to be more persistent in Europe than in the US.

5.3.5 Univariate response of unemployment to one standard deviation shock

To assess the degree of persistence of national and regional variables, as in the case of employment, I estimate the univariate process followed by regional unemployment rate in Spain and Poland. Over the period 1976-2004 for Spain and 1999-2004 for Poland, allowing for two lags (after having tested for the optimal number of lags), I run the following regression:

Equation 11 $$u_{it} = \alpha_{1i} + \alpha_2 u_{it-1} + \alpha_3 u_{it-2i} + \mu_{it}$$

Blanchard and Katz (1992) and Decressin and Fatas (1995) discovered that deviations of regional relative unemployment rates from their long-term means are not persistent both in European Union and in the US. Also, the differences in relative unemployment rates between regions seem to be more persistent in the European Union than in the US, suggesting that regional employment shocks may not be absorbed by changes in regional unemployment rates. Blanchard and Katz (1992) find that in the US the fast return to the long-term means happens because labour force participants migrate into states which have benefited from a favourable demand shock (see Table 18). In the case of Spain and Poland, unemployment is persistent in both countries, however stronger persistence resulting from shocks can be observed in Spain. This is a positive news for policy makers in Poland providing some comfort that the unemployment persistency is not as high as in Spain. We can observe it in the unemployment rate data. Spanish unemployment fell to a one digit number only in 2005 after over 20

years of double digit rate. Polish unemployment rate has fell below 10% in 2007 after 15 years of double digit levels of this indicator. In Spain the coefficient in lag 1 is 0.77 showing a very strong persistence of unemployment, stabilising in lag 2 to the level of 0.16. In the case of Poland coefficients are lower than in Spain, 0.41 in lag 1 and -0.07 (see Table 17). Unlike in the US, in Poland and Spain interregional migration is very low. R^2 is very similar in both countries, in Spain 0.992298 and in Poland 0.995815. This indicates that shocks are largely common to all regions. In Decressin and Fatas (1995) the coefficients were higher than in the case of Poland and Spain, amounting to 0.98 for EU and 0.88 for US in lag 1 (see Table 18). Figure 25 presents the above results for Poland and Spain in the form of univariate response of unemployment rate to one standard deviation shock, while Figure 26 shows the results of Decressin and Fatas (1995) for EU15 regions and US states.

Table 17 Regional relative unemployment rate, pooled sample[18]

u_{it}	u_{it-1}	u_{it-2}
Spain (17 regions)	0.773038 (0.023468)	0.157780 (0.023578)
Poland (16 regions)	0.410653 (0.062331)	-0.076479 (0.060799)

Table 18 Regional relative unemployment rate. Results for EU for the period of 1966-1987 and for US 1970-1990 by Decressin and Fatas (1995)

u_{it}	u_{it-1}	u_{it-2}
EEC (51 regions)	0.9787 (0.0337)	-0.4858 (0.0331)
US (51 regions)	0.8770 (0.0322)	-0.1630 (0.0320)

The sizes of the shocks are fairly similar, 0.72 percentage points in Europe and 0.84 in the US, but have less persistent effects in European Union than in the US. Similarly in

[18] Standard error in parenthesis

Spain the shock amounts to 6.7 percentage points and in Poland to 5.8 percentage points. This substantial difference is due to the fact that the European figure was estimated on all the European countries, including those with very low unemployment. Decressin and Fatas (1995) made some separate estimations for particular countries. The result of the estimation for Italy gave the initial shock as three times higher than for the whole Europe. As can be seen from Figure 25, in Poland the effect of the shock is lost much faster than in Spain. In period 5 the effect of the shock has disappeared completely while in Spain 70% of the initial effect is still left and it decreases gradually.

Figure 25 Univariate response of unemployment rate to one standard deviation shock. Pooled sample for Poland and Spain

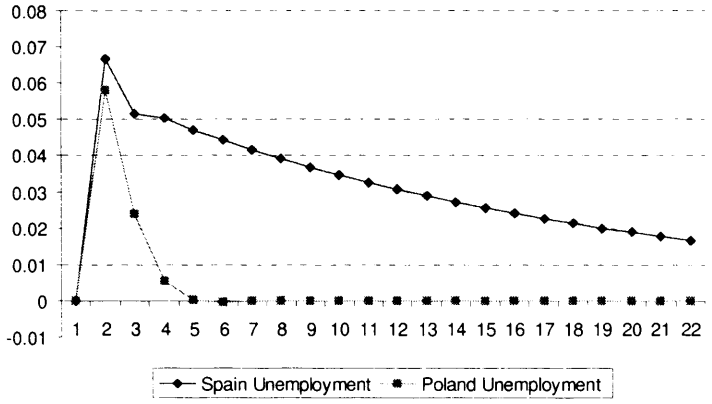
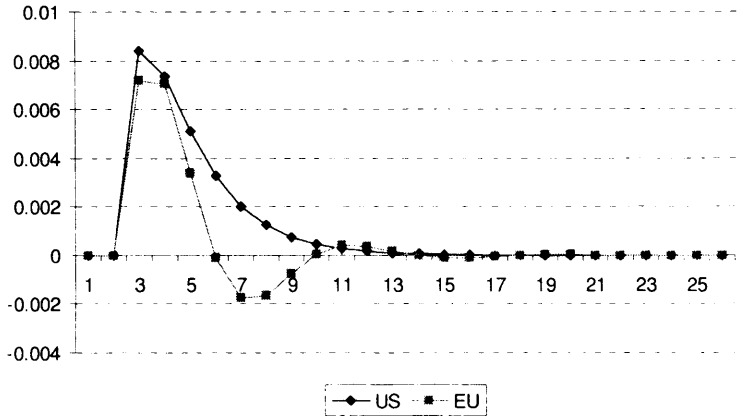


Figure 26 Univariate response of unemployment rate to one standard deviation shock. Pooled sample for US and EU according to Decressin and Fatas (1995)



5.3.6 Univariate response of participation rate to one standard deviation shock

In order to investigate the response of labour force participation to shocks, allowing for two lags I run:

Equation 12 $$p_{it} = \alpha_{1i} + \alpha_2 p_{it-1} + \alpha_3 p_{it-2i} + \eta_{it}$$

The results of pools sample of this regression with fixed effects are shown in Table 19. We can observe that the participation rate in Spain is persistent with a coefficient of 0.85. The results for Poland show no persistence, but should be treated with caution, as they are statistically insignificant. The results obtained by Decressin and Fatas show a low persistence in participation rates in Europe (0.66) and US (0.48) (see Table 20). Again, R^2 is very similar in both countries, in Spain 0.999985 and in Poland 0.999902.

Table 19 Regional relative participation rate, pooled sample[19]

p_{it}	p_{it-1}	p_{it-2}
Spain (17 regions)	0.851783 (0.023986)	0.056138 (0.023364)
Poland (16 regions)	-0.050466 (0.066687)	-0.034333 (0.066543)

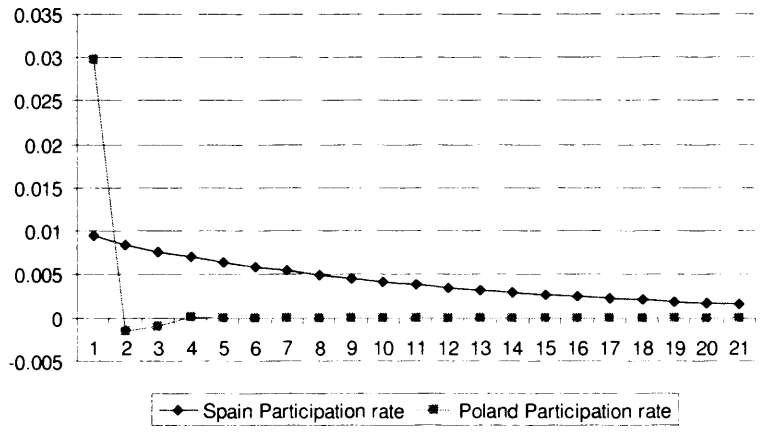
Table 20 Regional relative participation rate. Results for EU for the period of 1975-1987 and for US 1976-1990 by Decressin and Fatas (1995)

p_{it}	p_{it-1}	p_{it-2}
EEC (51 regions)	0.476 (0.054)	-0.015 (0.047)
US (51 regions)	0.665 (0.040)	-0.197 (0.040)

Figure 27 presents the results for Poland and Spain in the form of a univariate response of participation rate to one standard deviation shock. We can observe a stronger response in case of Spain than for Poland. Despite the fact that the shock is three times larger in Poland than in Spain, participation rates comes back to its initial level after 4 periods, while in Spain it moves back very gradually, showing some persistence of this measure. Again, as in the case of analysing persistence of unemployment rate, the situation of the Polish case looks more positive than the Spanish.

[19] Standard error in () parenthesis

Figure 27 Univariate response of participation rate to one standard deviation shock. Pooled sample for Poland and Spain.



5.3.7 The response to region-specific labour demand shocks, VAR analysis[20]

We now estimate the typical dynamic response of the average region to a transitory one-standard deviation region-specific labour demand shock in its relative employment growth. Following Blanchard and Katz (1992), I estimate a VAR with the employment growth, unemployment rate and participation rates:

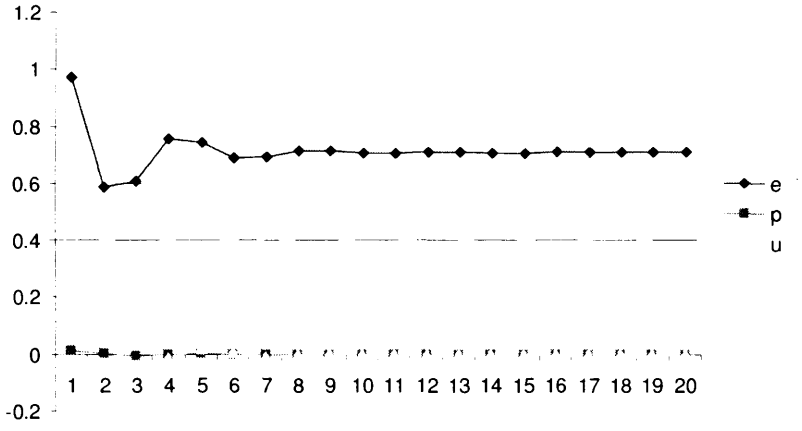
Equation 13 $X_{it} = A_i + B(L)X_{it-1} + \Sigma_{it}$

where $X_{it} = [\Delta n, U, pa]$ with variables as deviations from the national average, and where Σ is a vector of shocks. I allow for region-specific fixed-effects, taking into consideration the fact that some regions will have, more than others, permanently high relative unemployment rates and others will have low relative unemployment rates. It is preceded in this way for comparability with previous research. Pesaran and Smith (1995) have however pointed out that the estimates from pooled data may be inconsistent. Therefore I also ran a separate VAR for each region.

[20] For panel data Arellano Bond (xtabond) is used instead of VAR, which does not work on panel data. As VARs are autoregressions of a set of y variables on a set of lags of each of those variables, they can be efficiently estimated by OLS. Therefore, since it is a dynamic panel data setting, we run xtabond.

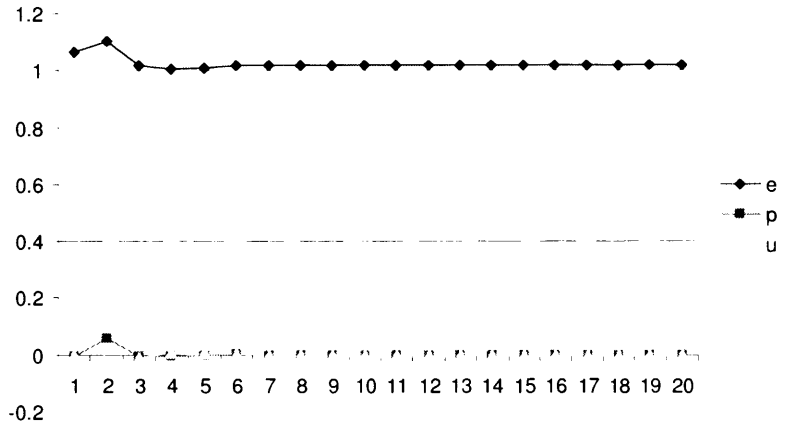
Following other researchers, I examine the responses of the three variables to an innovation in employment of the Choleski orthogonalization[21] of the VAR, with the following ordering of the variables: Δn, u, pa. This implies that employment only responds contemporaneously to labour demand shocks. The results of the responses of the employment level and of the unemployment and participation rates are shown in Figure 28 for Spain and in Figure 29 for Poland.

Figure 28 Spain. Impulse responses to labour demand shocks.



[21] The Cholesky method is commonly used in the Monte Carlo method for simulating systems with multiple correlated variables. For more details see Horn and Johnson (1985).

Figure 29 Poland. Impulse responses to labour demand shocks.



In addition, a comparison of the responses to the similar shocks in US states and EU regions, reproduced from Decressin and Fatas (1995) are made (see Figure 31 for Europe and Figure 32 for US). According to Jimeno and Bentolila (1998) the responses of regional relative unemployment and participation, to regional labour demand shocks are much slower in Spain than elsewhere, while the long-run effects on relative employment levels are lower slightly below those in the EU, and much smaller than in the US (see Figure 30). Their results in the medium term indicate that on average approximately 50% of the variance across regions is explained by aggregate shocks. Therefore, it makes sense to analyze regional labour market variables expressed as deviations from the corresponding national means. Jimeno and Bentolila provide us with a comprehensive explanation of the effects of a positive shock to a region's relative employment level. The workers who fill jobs created as a result of such a shock may come from three sources: the region's unemployed, previously non-participant workers and immigrants. Therefore, the behaviour of migration is captured by the difference between the change in employment, on the one

hand, and those of unemployment and participation, on the other. According to the authors:

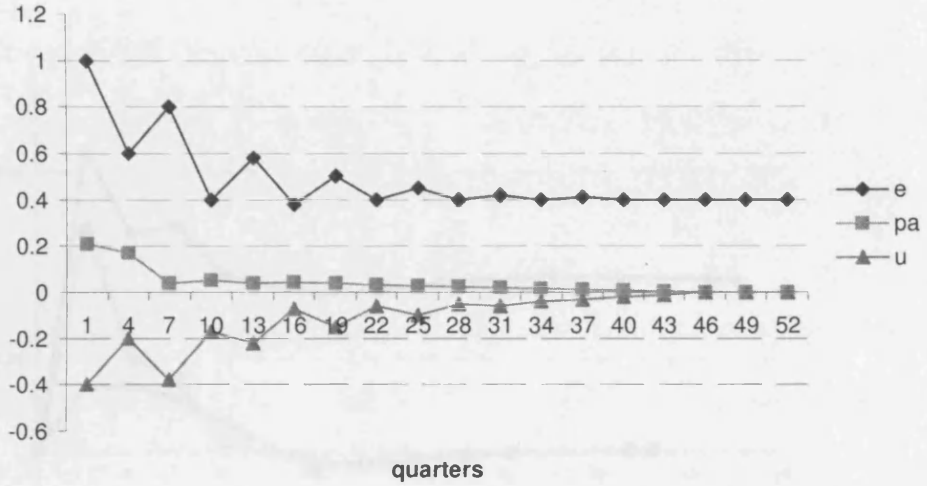
> "the main feature in the Spanish pattern is that the joint response of migration and participation to shocks is small. As in the case of EU regions, the lower response of migration than in the US explains the low long-run effect on the employment level mentioned above. Note that if there was no interregional migration, there would be no relative employment effects, while the latter would be large with highly elastic migration flows." (p. 33)

A lack of persistence of employment growth was also found for US states by Blanchard and Katz 1992 and for EU regions by Decressin and Fatas 1995. But the persistence of regional unemployment and participation rates shocks observed in Spain is significantly higher than those found elsewhere. The fact that the unemployment is more persistent in Spain than in Poland might be due to lower labour force participation[22], higher strictness of labour market regulations[23] or lower migration, which as earlier mentioned in Chapter 4, is one of the lowest among the OECD countries.

[22] In Spain the average annual participation rate over the measured period of 1976-2004 was of 63% while for Poland for the measured period of 1999-2004 of 67%.

[23] According to the OECD Employment Protection Legislation indicator (see OECD Employment Outlook 2004, Chapter 2 for more details), Spain has one of the highest indicators among the OECD countries with the level of 3.1 in 2003 in a scale of 1-6. Country with the highest strictness is Portugal with the indicator of 3.5. Poland is in the middle range with the strictness indicator of 1.7. The indicator is composed of three components: overall strictness of protection against (individual) dismissals, on temporary employment and on collective dismissals.

Figure 30 Impulse responses to region-specific labour demand shocks in Spain 1976-1994, according to Jimeno and Bentolila (1996)



To sum up the results of Decressin and Fatas, (1995), Blanchard and Katz, (1992) and Jimeno and Bentolila (1996), they show that a one percent point labour demand shock has a long-run effect on the relative regional employment level of about 1.4 percent in the US (Blanchard and Katz, 1992), about 0.6 percent in the EU (Decressin and Fatas, 1995), and about 0.4 percent in Spain (Jimeno and Bentolila, 1996). Moreover, the effects of this shock on regional relative unemployment and participation rates have vanished after six years in both the US and the EU, while in Spain, at that time horizon, about one fourth of the original effect of the shock on these variables still remains (Jimeno and Bentolila, 1996).

Figure 31 Europe. Impulse responses to labour demand shocks according to Decressin and Fatas (1995).

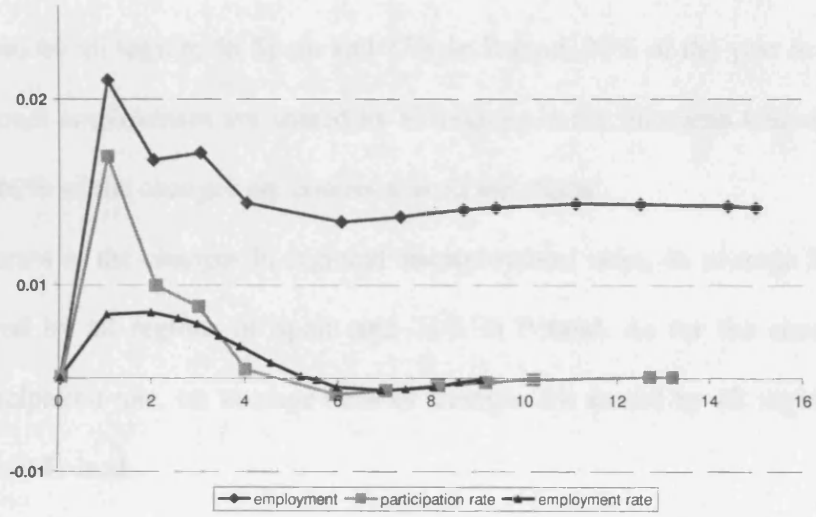
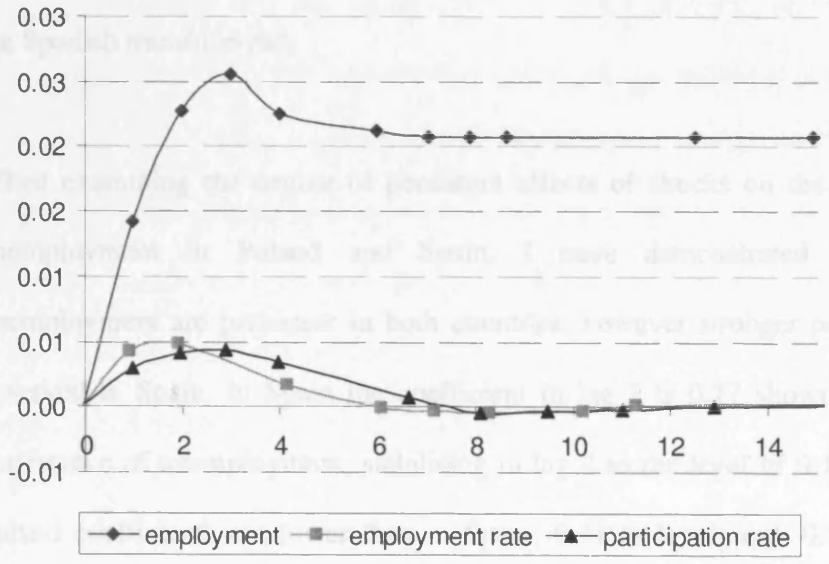


Figure 32 US. Impulse responses to labour demand shocks according to Decressin and Fatas (1995)



5.4 Summary of the results

When analysing the developments of regional labour markets in Poland and Spain, I have demonstrated that on average 32% of the changes in regional employment are shared by all regions in Spain and 17% in Poland. 20% of the year to year changes in regional employment are shared by all regions in the European Union, whereas in the US 60% of the changes are common to all the states.

In terms of the changes in regional unemployment rates, on average 89% changes are shared by all regions in Spain and 74% in Poland. As for the changes in regional participation rate, on average 65% of changes are shared by all regions in Spain and 46% in Poland.

In both Poland and Spain we can observe strong differences in labour market indicators at the regional level. However, in general the regional differences are smaller in Spain than in the case of Polish voivodeships. As earlier mentioned, this could indicate that the Polish transition amplified regional differences far more than the Spanish transition did.

When examining the degree of persistent effects of shocks on the regional relative unemployment in Poland and Spain, I have demonstrated that shocks to unemployment are persistent in both countries, however stronger persistence can be observed in Spain. In Spain the coefficient in lag 1 is 0.77 showing a very strong persistence of unemployment, stabilising in lag 2 to the level of 0.16. In the case of Poland coefficients are lower than in Spain, 0.41 in lag 1 and -0.07. Here, Poland comes across better than Spain: even if the regional differences have been more pronounced, in Poland, the regions respond better to shocks and return to equilibrium

faster. The fact that the unemployment is more persistent in Spain than in Poland, as mentioned in the previous section, might be due to lower labour force participation, more strict labour market regulations or lower migration. In particular, we observed in the descriptive chapters on labour markets in Spain and Poland that the initial female participation rate and therefore also the overall participation rate has been much higher in Poland than in Spain. This remains an important factor differentiating between the labour markets outcomes in both countries.

In the EU-15 regions and the US, a region-specific increase in the demand for labour permanently raises the employment share of a region, in Spain the reaction is similar to Europe. The strongest effect of the shock is observed in Poland. In addition, shocks are distributed less symmetrically across regions in Poland and Spain than in other EU-15 regions. In Europe, in the initial period, a region-specific increase in labour demand is mainly met by higher labour force participation, whereas in the US immigration plays the most important role in the adjustment. In Poland and Spain there is no effect of the shock on unemployment rate and participation rate.

It can be concluded that the behaviour of regional relative variables is very similar in Poland and Spain, but the adjustment mechanism on the regional level works better in the former than in the latter economy, which is a good sign. On the other hand, a small scale of adjustment via internal migration is a point of concern, even if both economies share the problem with most of the EU countries.

Chapter 6 Assessment of the active labour market policies applying the Augmented Matching Function approach

This chapter provides an analysis of Polish active labour market policies (ALMPs), with the emphasis on training programmes, as seen from a regional perspective. The effectiveness of labour market policies has been widely discussed in the literature.- Many results demonstrated that ALMPs are not always a solution to labour market problems. The basic approach in assessing the effectiveness of these methods is to measure their influence on the future employment prospects of their participants. It is also important to consider the macroeconomic context: the efficiency of the programmes on the micro level does not necessarily translate into their macroeconomic effect due to the indirect macroeconomic effects resulting from these policies. ALMPs may not only have an effect on the participants, but may very well have effects on the non-participant unemployed population or even on the employed population.

Therefore, assessing the effectiveness of ALMPs using an appropriate framework of reference is crucial for policy makers as these efforts may have no effects on the labour market at all, constitute a deadweight loss (when programme participants are primarily the unemployed who could find a job even without such assistance), create a substitution effect (when programme participants are employed at the expense of other unemployed, excluded from the programme) or a displacement effect (when programme participants are employed at the expense of the people employed in this job before, and who in consequence become unemployed).

In particular, the substitution effect was described by Haskel and Jackman (1988). If substitution effects are prevailing, ALMPs do not increase the total outflows from unemployment into employment, but merely alter the composition of the outflows. Yet the analysis of the other effects require more empirical work, and this is where I aim to contribute to the existing literature, also taking into account, the "transition" context of the Polish labour market, as discussed in the previous chapters.

The chapter is structured as follows. In section 6.1 and 6.1.1, I will introduce the concept of the augmented matching function extending the discussion in Chapter 1. The data and variables used in the empirical study are presented in Section 6.2. Section 6.3 provides the main estimation results. An extension of the benchmark analysis is that in order to measure the effects of the ALMPs in different types of voivodeships, I run the matching function model on three types of voivodeships: modern, industrial and agricultural. The results of these regressions are described in Section 6.3.1. Finally, Section 6.4 provides the conclusions.

Empirical evaluations of active labour market programmes (ALMPs) have utilised both, a microeconometric and a macroeconometric approach. Microeconometric analysis estimates the impact of a programme on the individual's re-employment chances, while the macroeconometric approach's advantage is its capability of capturing externalities by looking at aggregate data. The analysis provides a macroeconometric approach to the evaluation of ALMPs in Poland. The key modelling concept is based on the augmented matching function.

6.1 The Ordinary Matching Function

Following the description and formulations used by Puhani (1999), the matching function can be written:

Equation 14 $h = Am(U,V)$

where h are new hirings (matches, outflows from unemployment into employment), U and V are the stocks of unemployed persons and vacancies, respectively, and m is a continuous non-constant function. A is the mismatch parameter (the higher A, the smaller the mismatch between the unemployed and vacancies). Thus A can capture a variety of factors. Amongst the most important are occupational mismatch, geographical mismatch, the efficiency of labour market institutions (like the public employment service) in creating matches, as well as preferences and institutionally set incentives which influence the search behaviour of the agents.

Specifying the matching process by a Cobb-Douglas type production function I get

Equation 15 $h = AU^{\beta}V^{\gamma}$

Taking logarithms on both sides and allowing for some random variation in hiring, the following regression equation can be formulated:

Equation 16 $\ln(h_t) = \alpha + \beta\ln(U_t) + \gamma\ln(V_t) + \delta t + \varepsilon_t$

where $ln(A_t)=\alpha+\beta t+\varepsilon_t$. δ is the coefficient on the deterministic time trend which accounts for changes in matching efficiency over time.

6.1.1 The Augmented Matching Function

In the ordinary matching function, the unemployed are treated as a homogenous pool of people. Lehmann (1995), taking up the concept of the search effectiveness of the

unemployed by Layard, Nickell, and Jackman (1991, Chapters 5 and 10), formulates the augmented matching function as

Equation 17 $h = A(\psi U)^{\beta} V^{\gamma}$

where ΨU denotes the search effective stock of the unemployed, and Ψ is the average search effectiveness of the unemployed people. The search effectiveness of the unemployment stock may be reduced by a higher share of the long-term unemployed in the total unemployment stock. ALMPs, on the other hand, can be viewed as measures to increase the search effectiveness of the unemployment stock.

Following Lehmann (1995), we can thus decompose Ψ as

Equation 18 $\psi = \psi_0(1 + KT)$, **with**

Equation 19 $T = \sum_{r=1}^{R} w_r T_r$ **and**

Equation 20 $\sum_{r=1}^{R} w_r = 1$ **so that**

Equation 21 $\psi = \psi_0 + \psi_0 KW_1 T_1 + \psi_0 KW_2 T_2 + ... + \psi_0 KW_R T_R$

where Ψ_0 $(0 < \Psi_0 \leq 1)$ is the search effectiveness index without any ALMPs treatment, T is a weighted ALMPs index of the set of R different ALMPs programmes T_r. The T_r variables can be expenditures on ALMPs, stocks or outflows of participants, or a combination of expenditures and participants in the programmes. $\Psi_0 K$ is the effect of the ALMPs programmes on the search effectiveness of the unemployed.

Inserting the decomposition of Ψ into the Cobb-Douglas specification and taking logarithms we get:

Equation 22 $\ln(h) = \ln(A) + \beta_1 \ln(\psi_0(1 + KT)) + \beta_2 \ln(U) + \gamma \ln(V)$

For small KT we can approximate the equation by

Equation 23 $\ln(h) \approx \ln(A) + \beta_1 \ln(\psi_0) + \beta KT + \beta_2 \ln(U) + \gamma \ln(V)$

which is equal to Equation 24

$$\ln(h) \approx \ln(A) + \beta \ln(\psi_0) + \beta KW_1 T_1 + \beta KW_2 T_2 + ... + \beta KW_R T_R + \beta \ln(U) + \gamma \ln(V)$$

We can therefore write the following regression equation:

Equation 25 $\ln(h) = \alpha + \beta \ln(U_t) + \gamma \ln(V_t) + \phi_1 T_{1t} + \phi_2 T_{2t} + ... + \phi_R T_{Rt} + \delta t + \varepsilon_t$

where $\phi_r = \beta KW_r$ and $ln(A_t)=\alpha+\beta ln(\Psi_0)+\delta t+\varepsilon_t$. Thus we can estimate the effects $\phi_1,...,\phi_R$, of the active labour market programmes 1 to R on the outflows from unemployment to employment h.

6.2 Data and variables

We are using monthly regional panel data from the Polish Ministry of Labour and Social Policy on outflows from unemployment, unemployment and vacancy stocks, and on participants in ALMP programmes like training, intervention works, public works and start-up loans. Other authors use also the expenditure on ALMP[24], but for the chosen time series this data was not available in the regional dimension. The panel is split in two parts due to the administration reform in 1999, which changed the number of voivodeships from 49 to 16. The first panel is for the period between January 1995 and December 1998 for 49 voivodeships and the second for the period between January 1999 and October 2005 for 16 voivodeships.

There is a measurement problem as outflows from unemployment into any ALMPs, apart from training, are measured as outflows into employment, i.e., an inflow into a works programme leads to an outflow from unemployment. Regressing any type of outflows on works programmes variables would yield spurious estimates. Therefore,

[24] Used data is in differences of logarithms (ln) of thousands in order to avoid the stationarity problem. When running Dickey-Fuller test on levels, we were finding unit root in the majority of series.

the proposed solution is to adjust the measured outflows from unemployment by subtracting the inflows into public works and intervention works. However, this method carries a risk of underestimating the possibility of intervention works turning into a genuine outflow. The resulting **net outflows** measure is the dependent variable of interest. I will interpret the coefficients of ALMPs in the following way:

- if the coefficients are negative and significant, we face clear-cut substitution/ displacement effects[25],
- if the coefficients are insignificant, the policies have no indirect effects on other outflows,
- if the coefficients are positive, we face some positive external effects of ALMPs on other outflows.

Following Puhani and Steiner (1996; 1997), I will alleviate the endogeneity problem by lagging the ALMPs variables. Lagging the ALMPs policies variables also accounts for the fact that it takes some time until these expenditures can have an effect on the labour market.

In addition, to avoid the seasonality problem, I have augmented the estimations with 11 monthly dummy variables. All the variables are presented as logarithms of thousands.

6.3 Results of the effects of ALMPs on the outflows from unemployment

The following section presents the estimation results of effects of ALMPs on outflows from unemployment.

[25] Due to data limitations we are unable to distinguish whether we deal with substitution or displacement effect.

Table 21 presents the results of the augmented matching function estimates for old voivodeships and Table 23 for new voivodeships. The cumulative significances are shown in Table 22 and Table 24. I estimate each regression for both robust fixed and random effects models and by applying the Hausman (1978) test I indicate the preferred estimation. When the Hausman test[26] does not reject the random effects model, then the random effects estimates, which are more efficient than the fixed effects estimates, are likely to be consistent. I have also carried out dynamic specification by Arellano Bond (1991) estimation, to account for the lagged dependant variable but the results on the lagged dependent variable were not significant, so I did not adopt a dynamic model.

In the model I have also included lagged ALMPs variables. For the intervention works I account for six lags, for public works for 4 lags and for loans for start ups (old voivodeships only) for five lags. The cut-off points for the number of lags were based on the significance of the lags. Lagging training proved to be insignificant, therefore I only account for the current value of this measure.

[26] The Hausman test tests the null hypothesis that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. If they are (insignificant P-value, Prob>chi2 larger than 0.05) then it is safe to use random effects.

Table 21 Augmented matching function estimates for old voivodeships (49).

	Fixed Effects				Random Effects			
outflows	Coefficient	Std. Error	T-statistics	P>|t|	Coefficient	Std. Error	Z-statistics	Z>|t|
ln unemployment (t-1)	0.451	0.030	15.260	0.000	0.484	0.028	17.590	0.000
ln vacancies (t-1)	0.054	0.011	5.000	0.000	0.059	0.010	6.010	0.000
training	0.002	0.007	0.330	0.744	0.010	0.007	1.420	0.155
ln Intervention Works	0.020	0.015	1.360	0.174	0.021	0.015	1.410	0.157
ln Intervention Works (t-1)	-0.067	0.016	-4.220	0.000	-0.066	0.016	-4.120	0.000
ln Intervention Works (t-2)	-0.009	0.015	-0.600	0.548	-0.007	0.016	-0.470	0.637
ln Intervention Works (t-3)	0.006	0.014	0.430	0.669	0.007	0.015	0.470	0.637
ln Intervention Works (t-4)	-0.011	0.013	-0.790	0.431	-0.008	0.014	-0.610	0.541
ln Intervention Works (t-5)	0.009	0.014	0.660	0.506	0.010	0.014	0.740	0.462
ln Intervention Works (t-6)	-0.022	0.012	-1.860	0.063	-0.015	0.012	-1.260	0.206
ln Public Works	0.032	0.008	3.830	0.000	0.032	0.008	3.940	0.000
ln Public Works (t-1)	0.013	0.008	1.750	0.079	0.014	0.008	1.800	0.072
ln Public Works (t-2)	-0.005	0.008	-0.660	0.508	-0.004	0.008	-0.550	0.583
ln Public Works (t-3)	0.007	0.008	0.970	0.333	0.008	0.008	1.040	0.298
ln Public Works (t-4)	-0.023	0.007	-3.300	0.001	-0.022	0.007	-3.200	0.001
ln Startup Loans	-0.002	0.008	-0.300	0.764	-0.001	0.008	-0.070	0.947
ln Startup Loans (t-1)	0.002	0.008	0.310	0.756	0.003	0.008	0.440	0.659
ln Startup Loans (t-2)	0.009	0.007	1.150	0.249	0.011	0.008	1.410	0.158
ln Startup Loans (t-3)	-0.001	0.007	-0.130	0.893	0.000	0.007	0.040	0.968
ln Startup Loans (t-4)	-0.010	0.007	-1.410	0.159	-0.009	0.008	-1.170	0.244
ln Startup Loans (t-5)	-0.025	0.007	-3.830	0.000	-0.022	0.007	-3.330	0.001
d1	0.000	0.000	6.360	0.000	0.000	0.000	6.710	0.000
d2	0.000	0.000	7.730	0.000	0.000	0.000	7.770	0.000
d3	0.000	0.000	13.630	0.000	0.000	0.000	13.390	0.000
d4	0.000	0.000	15.340	0.000	0.000	0.000	15.170	0.000
d5	0.001	0.000	21.940	0.000	0.001	0.000	21.880	0.000
d6	0.000	0.000	19.130	0.000	0.000	0.000	19.310	0.000
d7	0.000	0.000	19.750	0.000	0.000	0.000	19.730	0.000
d8	0.000	0.000	15.390	0.000	0.000	0.000	15.040	0.000
d9	0.001	0.000	26.350	0.000	0.001	0.000	25.480	0.000
d10	0.001	0.000	25.740	0.000	0.001	0.000	25.310	0.000
d11	0.000	0.000	16.970	0.000	0.000	0.000	16.450	0.000
employment share in state	(dropped)				0.002	0.000	7.200	0.000
employment share in agriculture	(dropped)				0.001	0.000	3.870	0.000
_cons	0.002	0.000	6.940	0.000	0.001	0.000	3.330	0.001
Number of observations	1967				1967			
Number of groups	49				49			
Min Observations per group	10				10			
Avg Observations per group	40.1				40.1			
Max Observations per group	54				54			
R square within	0.687				0.686			
R square between	0.834				0.840			
R square overall	0.696				0.774			
Hausman Test	0				0			

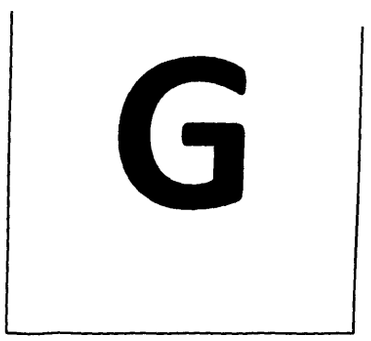

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Table 22 Cumulative significance of coefficients for old voivodeships.

type of ALMPs	joint effects for old voivodeships			
	fixed effects		random effects	
Intervention Works	F(7, 1886) = 5.22	Prob > F = 0.0000	chi2(7) = 31.43	Prob > chi2 = 0.0001
Public Works	F(5, 1886) = 8.15	Prob > F = 0.0000	chi2(5) = 44.05	Prob > chi2 = 0.0000
Loans	F(6, 1886) = 3.75	Prob > F = 0.0010	chi2(6) = 17.77	Prob > chi2 = 0.0068

Table 23 Augmented matching function estimates for new voivodeships (16).

	Fixed Effects				Random Effects			
outflows	Coefficient	Std. Error	T-statistics	P>|t|	Coefficient	Std. Error	Z-statistics	Z>|t|
ln unemployment (t-1)	0.346	0.047	7.340	0.000	0.852	0.019	45.740	0.000
ln vacancies (t-1)	0.058	0.008	7.200	0.000	0.015	0.008	1.770	0.077
training	0.065	0.011	5.890	0.000	0.062	0.011	5.570	0.000
ln Intervention Works	-0.024	0.010	-2.340	0.020	-0.035	0.013	-2.800	0.005
ln Intervention Works (t-1)	-0.034	0.016	-2.120	0.034	-0.036	0.018	-1.960	0.050
ln Intervention Works (t-2)	0.071	0.016	4.480	0.000	0.065	0.018	3.640	0.000
ln Intervention Works (t-3)	0.001	0.012	0.060	0.948	-0.007	0.014	-0.530	0.598
ln Intervention Works (t-4)	0.014	0.011	1.210	0.227	0.003	0.013	0.220	0.826
ln Intervention Works (t-5)	-0.020	0.010	-2.010	0.045	-0.017	0.012	-1.410	0.157
ln Intervention Works (t-6)	0.017	0.008	2.230	0.026	0.019	0.009	2.150	0.032
ln Public Works	0.019	0.011	1.740	0.082	0.034	0.012	2.780	0.005
ln Public Works (t-1)	-0.032	0.012	-2.580	0.010	-0.020	0.014	-1.470	0.140
ln Public Works (t-2)	0.014	0.011	1.350	0.178	0.021	0.013	1.650	0.098
ln Public Works (t-3)	-0.011	0.009	-1.240	0.216	-0.003	0.011	-0.230	0.815
ln Public Works (t-4)	0.018	0.008	2.150	0.032	0.031	0.010	3.130	0.002
d1	0.000	0.000	12.150	0.000	0.000	0.000	7.770	0.000
d2	0.000	0.000	5.660	0.000	0.000	0.000	4.190	0.000
d3	0.000	0.000	21.430	0.000	0.000	0.000	15.290	0.000
d4	0.001	0.000	30.300	0.000	0.001	0.000	23.850	0.000
d5	0.001	0.000	27.630	0.000	0.001	0.000	23.610	0.000
d6	0.001	0.000	24.820	0.000	0.001	0.000	21.200	0.000
d7	0.000	0.000	19.800	0.000	0.000	0.000	17.990	0.000
d8	0.000	0.000	15.930	0.000	0.000	0.000	13.930	0.000
d9	0.001	0.000	26.560	0.000	0.001	0.000	22.690	0.000
d10	0.001	0.000	26.180	0.000	0.001	0.000	22.990	0.000
d11	0.000	0.000	10.770	0.000	0.000	0.000	8.630	0.000
_cons	0.003	0.001	5.440	0.000	-0.003	0.000	-17.700	0.000
Number of observations	1204				1204			
Number of groups	16				16			
Min Observations per group	69				69			
Avg Observations per group	75.3				75.3			
Max Observations per group	76				76			
R square within	0.7656				0.7423			
R square between	0.9463				0.9487			
R square overall	0.7929				0.8781			
Hausman Test	n/a				n/a			

Table 24 Cumulative significance of coefficients for new voivodeships.

type of ALMPs	joint effects for new voivodeships			
	fixed effects		random effects	
Intervention Works	F(7, 1162) = 6.99	Prob > F = 0.0000	chi2(7) = 32.84	Prob > chi2 = 0.0000
Public Works	F(4, 1162) = 2.25	Prob > F = 0.0622	chi2(4) = 14.19	Prob > chi2 = 0.0067

The coefficient on unemployment is significant in all specifications and larger than the one on vacancies. This has also been found in the other studies on Poland using panel data (Boeri, 1994a; 1994b; Boeri and Scarpetta, 1995; Lehmann, 1995; and Kwiatkowski and Tokarski, 1997). The Hausman test in all cases rejected the random effects. The estimates show a weak positive effect of training on outflows from unemployment. As earlier mentioned, this result indicated some positive external effects of ALMPs on other outflows. For old voivodeships the coefficient for training is 0.002 and for new voivodeships 0.065. Training seems to be the most efficient ALMP in the new voivodeships; a comparison with the results for old voivodships suggests some efficiency improvement over time.

As for the intervention works there is a negative net effect on outflows from unemployment with the cumulative coefficient of -0.073 for old voivodeships, creating substitution/displacement effects. According to Sztanderska and Piotrowski (1999), for the most numerous group of the unemployed with basic vocational education the most effective measure in finding a permanent job was to take part in programmes of intervention works, in which they gained direct contact with an employer and in practice acquired new vocational skills. For new voivodeships the cumulative coefficient is positive and amounts to 0.024, which could suggest some positive external effects. This change in results might signify a change in the efficiency of this policy, but should be taken with caution as it might be simply sensitive to the change in classification of voivodeships, or may result from the fact that the macroeconomic environment changed significantly between the two periods. While in the first period the Polish economy was growing fast, for much of the later period, the economy experienced a considerable slowdown. It is possible that the

programmes created substitution/displacement effects when employment was growing anyway, but led to genuine employment gains in the period, when there was little alternative employment creation. I will explore this issue in more detail below.

The results of estimation show a weaker positive external effect of public works with a cumulative coefficient of 0.024 for old voivodeships and 0.009 for new voivodeships. For old voivodeships I also measure the effect of loans for start ups which seem to have substitution/displacement effects, with a cumulative coefficient of -0.028.

As the Polish Economy went through a considerable slowdown in 2001-2002 (for details see Table 25), I also measured whether the exclusion of this period in the estimation for new voivodeships provides us with more similar results to those obtained for old voivodeships. The exclusion period accounts for quarters with lower than 2% growth, calculated on an annual basis, which is taken as an empirical proxy for the economic slowdown.

Table 25 GDP growth in Poland in 2000-2005[27]

GDP growth	I quarter	II quarter	III quarter	IV quarter	I-IV quarters
2000	106	105.2	103.3	102.6	104.2
2001	102.3	101.1	100.9	100.4	101.1
2002	100.6	100.9	101.8	102.2	101.4
2003	102.4	104	104.2	104.7	103.8
2004	106.8	105.9	104.8	104	105.3
2005	102.4	103	104.1	104.5	103.5

Source: GUS, Central Statistical Office, 2006

The results confirm the hypothesis. The results for the estimation of augmented matching function estimates for new voivodeships excluding the slowdown period

[27] corresponding period of previous year=100

between August 2001 and April 2003 are presented in Table 26. Cumulative significances for the cumulative coefficients are presented in Table 27.

Table 26 Augmented matching function estimates for new voivodeships (16) excluding the slowdown period between August 2001 and April 2003.

	Fixed Effects				Random Effects			
Outflows	Coefficient	Std. Error	T-statistics	P>|t|	Coefficient	Std. Error	Z-statistics	Z>|t|
ln unemployment (t-1)	0.455	0.045	10.090	0.000	0.970	0.026	37.470	0.000
ln vacancies (t-1)	0.048	0.008	5.640	0.000	-0.001	0.009	-0.100	0.917
Training	0.048	0.011	4.330	0.000	0.029	0.016	1.850	0.064
ln Intervention Works	-0.026	0.011	-2.340	0.019	-0.034	0.016	-2.070	0.039
ln Intervention Works (t-1)	-0.023	0.012	-2.040	0.042	-0.019	0.018	-1.010	0.314
ln Intervention Works (t-2)	-0.008	0.011	-0.680	0.498	-0.015	0.018	-0.810	0.416
ln Intervention Works (t-3)	-0.024	0.011	-2.200	0.028	-0.033	0.018	-1.880	0.060
ln Intervention Works (t-4)	0.010	0.011	0.870	0.384	0.002	0.017	0.110	0.914
ln Intervention Works (t-5)	-0.018	0.011	-1.640	0.101	-0.023	0.017	-1.350	0.176
ln Intervention Works (t-6)	0.018	0.010	1.750	0.081	0.020	0.014	1.450	0.148
ln Public Works	-0.006	0.007	-0.770	0.441	0.006	0.011	0.500	0.616
ln Public Works (t-1)	0.011	0.007	1.580	0.115	0.022	0.012	1.810	0.070
ln Public Works (t-2)	0.003	0.008	0.460	0.648	0.003	0.012	0.280	0.779
ln Public Works (t-3)	0.009	0.008	1.090	0.278	0.015	0.013	1.160	0.244
ln Public Works (t-4)	0.007	0.007	0.980	0.329	0.022	0.011	2.070	0.038
d1	0.000	0.000	7.240	0.000	0.000	0.000	3.470	0.001
d2	0.000	0.000	7.800	0.000	0.000	0.000	4.000	0.000
d3	0.000	0.000	15.080	0.000	0.000	0.000	9.020	0.000
d4	0.001	0.000	23.710	0.000	0.001	0.000	15.190	0.000
d5	0.001	0.000	25.750	0.000	0.001	0.000	16.640	0.000
d6	0.001	0.000	22.600	0.000	0.001	0.000	15.520	0.000
d7	0.000	0.000	18.350	0.000	0.000	0.000	13.420	0.000
d8	0.000	0.000	13.490	0.000	0.000	0.000	9.730	0.000
d9	0.001	0.000	22.870	0.000	0.001	0.000	16.370	0.000
d10	0.000	0.000	18.560	0.000	0.001	0.000	14.660	0.000
d11	0.000	0.000	6.760	0.000	0.000	0.000	4.960	0.000
_cons	0.002	0.000	4.900	0.000	-0.003	0.000	-18.300	0.000
Number of observations	720				720			
Number of groups	16				16			
Min Observations per group	45				45			
Avg Observations per group	45				45			
Max Observations per group	45				45			
R square within	0.880				0.742			
R square between	0.957				0.949			
R square overall	0.851				0.878			
Hausman Test	0				0			

Table 27 Cumulative significance of coefficients for new voivodeships without the recession period.

type of ALMPs	joint effects for new voivodeships without the recession period			
	fixed effects		random effects	
Intervention Works	F(7, 442) = 11.25	Prob > F = 0.0000	chi2(7) = 70.06	Prob > chi2 = 0.0000
Public Works	F(4, 442) = 2.79	Prob > F = 0.0260	chi2(4) = 14.87	Prob > chi2 = 0.0050

The effects of intervention works and public works are almost the same as for the old voivodeships with corresponding cumulative coefficients of -0.072 (cumulative significance of 11.25) and 0.025 (cumulative significance of 2.79). The effect of training is also positive but the effect is stronger with a coefficient of 0.048. The comparative study of the results is presented in Table 28 below.

6.3.1 ALMPs effects on modern, industrial and agricultural voivodeships

Due to significant differences between the Polish regions, following Boeri and Scarpetta (1995) and Burda and Profit (1996), I estimate separate regressions for modern, industrial, and agricultural voivodeships. I follow the division of voivodeships elaborated by Kwiatkowski and Gawronska (1995) and Kwiatkowski, Lehmann and Schaffer (1992). The division is based on the employment structure from 1989. All the regions were first divided into two groups: agricultural and non-agricultural voivodeships. The cut-off point was taken as a mean plus half of standard deviation of employment share in agriculture. The voivodeships above this critical value were declared agricultural. The remaining voivodeships (non-agricultural) were subsequently divided into three further groups. Firstly, the authors calculated the mean share of industry in non-agricultural employment. Voivodeships were declared strongly industrialised if the corresponding share of industry was above the mean minus half standard deviation. Finally, for the non-agricultural non-strongly-industrial voivodeships, the standard deviation and mean were calculated for the share of employment in the private sector in relation to the overall employment in non-agricultural sector. Voivodeships with the private sector share at least half of standard

deviation above the mean were declared modern. The residual group (non-agricultural, non-strongly-industrialised, non-modern) was labelled others.[28]

The geographical distribution of voivodeships is depicted in the map of Figure 33.

Figure 33 Modern, Industrial, and Agricultural Voivodeships

Notes: The striped voivodeships are modern, the black ones industrial, the patterned ones agricultural, and the white ones belong to none of these categories.
Source: Kwiatkowski and Gawronska (1995).

[28] In case of old voivodeships structure, as agricultural voivodeships we classify Bialskopodlaskie, Chelmskie, Ciechanowskie, Koninskie, Krosnienskie, Leszczynskie, Lubelskie, Lomzynskie, Nowosadeckie, Ostroleckie, Piotrkowskie, Plockie, Przemyskie, Radomskie, Siedleckie, Sieradzkie, Skierniewickie, Suwalskie, Tarnobrzeskie, Tarnowskie, Zamojskie. As industrial voivodeships we classify: Bielskie, Bydgoskie, Czestochowskie, Jeleniogrrskie, Kaliskie, Katowickie, Kieleckie, Legnickie, Lodzkie-miejskie, Opolskie, Rzeszowskie, Torunskie, Walbrzyskie, Wloclawskie, Wroclawskie, Zielonogorskie. And finally the modern voiviodhips are: Warszawskie-stoleczne, Gdanskie, Gorzowskie, Koszalinskie, Krakowskie-miejskie, Poznanskie, Slupskie and Szczecinskie. Bialostockie, Elblaskie, Olsztynskie and Pilskie were left outside the classification.
In the new administration division, for agricultural voivodeships we classify: Lubelskie, Malopolskie, Podkarpackie, Podlaskie, Warmińsko-Mazurskie, for industrial voivodeships: Dolnośląskie, Kujawsko-Pomorskie, Łódzkie, Opolskie, Śląskie, Świętokrzyskie, Wielkopolskie and for modern voivodeships: Lubuskie, Mazowieckie, Pomorskie, Zachodniopomorskie.

The summary of all coefficients obtained in the estimations are presented in Table 28.

Table 28 Summary of cummulative coefficients obtained from estimations (fixed effects)

Region	training	IW	PW	Loans
old voivodeships				
General	0.00	-0.07	-0.02	-0.03
Agricultural	-0.01	-0.02	0.00	-0.05
Industrial	0.01	-0.11	0.02	-0.05
Modern	0.02	-0.14	0.10	0.00
new voivodeships				
General	0.06	0.02	0.01	n/a
general without recession period	0.05	-0.07	0.02	n/a

Regression results are presented in Table 29, Table 30 and Table 32. The cumulative significances for cumulative coefficients are presented in Table 30, Table 32 and Table 34. These estimates are made for old voivodeships only, due to smaller samples for new voivodeships. The estimation by type of voivodeship with the exclusion of the recession period was not practical due to the small sample size. The Hausman test rejected the random effects model in all the estimations.

Overall, again the coefficients for unemployment and vacancies are positive in all cases; the figures for unemployment are considerably higher than those for vacancies.

The results for agricultural voivodeships provide the evidence supporting the claim that the training programmes are the least efficient there, with a negative coefficient of -0.015. The estimation results for intervention works show the strongest substitution/ displacement effects for all the types of voivodeships with the cumulative coefficient of -0.023 and overall significance of 1.47. The effects of public works are the weakest of all the types with the cumulative coefficient of 0.001 and overall significance of 4.13. Overall, the ALMPs in agricultural voivodeships seem to be rather inefficient.

Table 29 Augmented matching function estimates for old agricultural voivodeships.

	Fixed Effects				Random Effects			
outflows	Coefficient	Std. Error	T-statistics	P>|t|	Coefficient	Std. Error	Z-statistics	Z>|t|
ln unemployment (t-1)	0.431	0.068	6.360	0.000	0.669	0.037	18.080	0.000
ln vacancies (t-1)	0.022	0.019	1.130	0.260	0.098	0.013	7.550	0.000
training	-0.015	0.011	-1.410	0.158	0.044	0.012	3.580	0.000
ln Intervention Works	0.018	0.021	0.850	0.394	0.026	0.026	0.980	0.326
ln Intervention Works (t-1)	-0.054	0.024	-2.270	0.023	-0.060	0.029	-2.060	0.039
ln Intervention Works (t-2)	0.000	0.023	0.010	0.996	0.009	0.029	0.320	0.750
ln Intervention Works (t-3)	0.003	0.023	0.140	0.887	0.004	0.029	0.130	0.896
ln Intervention Works (t-4)	-0.014	0.022	-0.620	0.533	0.000	0.027	0.000	0.997
ln Intervention Works (t-5)	0.041	0.022	1.900	0.058	0.032	0.027	1.220	0.224
ln Intervention Works (t-6)	-0.017	0.019	-0.920	0.357	-0.002	0.023	-0.100	0.920
ln Public Works	0.025	0.012	2.080	0.038	0.003	0.014	0.240	0.813
ln Public Works (t-1)	0.022	0.013	1.660	0.098	0.008	0.016	0.480	0.633
ln Public Works (t-2)	-0.012	0.014	-0.860	0.389	-0.013	0.016	-0.850	0.394
ln Public Works (t-3)	0.002	0.013	0.120	0.904	-0.005	0.014	-0.340	0.737
ln Public Works (t-4)	-0.036	0.012	-3.130	0.002	-0.038	0.013	-2.910	0.004
ln Startup Loans	0.000	0.012	-0.010	0.990	0.016	0.015	1.040	0.298
ln Startup Loans (t-1)	-0.004	0.013	-0.310	0.754	0.007	0.017	0.400	0.689
ln Startup Loans (t-2)	0.015	0.014	1.070	0.285	0.031	0.019	1.660	0.097
ln Startup Loans (t-3)	0.003	0.014	0.210	0.835	0.014	0.017	0.800	0.424
ln Startup Loans (t-4)	-0.023	0.014	-1.680	0.094	-0.005	0.017	-0.310	0.753
ln Startup Loans (t-5)	-0.037	0.012	-3.110	0.002	-0.014	0.015	-0.920	0.360
d1	0.000	0.000	4.670	0.000	0.000	0.000	4.680	0.000
d2	0.000	0.000	3.930	0.000	0.000	0.000	2.610	0.009
d3	0.000	0.000	7.490	0.000	0.000	0.000	4.970	0.000
d4	0.001	0.000	10.270	0.000	0.000	0.000	7.250	0.000
d5	0.001	0.000	14.000	0.000	0.001	0.000	11.420	0.000
d6	0.001	0.000	12.850	0.000	0.001	0.000	10.010	0.000
d7	0.001	0.000	13.920	0.000	0.001	0.000	11.210	0.000
d8	0.000	0.000	11.640	0.000	0.000	0.000	8.970	0.000
d9	0.001	0.000	18.760	0.000	0.001	0.000	12.770	0.000
d10	0.001	0.000	17.760	0.000	0.001	0.000	13.580	0.000
d11	0.000	0.000	11.400	0.000	0.000	0.000	7.930	0.000
employment share in state industry	(dropped)				0.001	0.000	2.830	0.005
employment share in agriculture	(dropped)				0.000	0.000	-2.990	0.003
_cons	0.002	0.001	3.090	0.002	-0.001	0.000	-3.570	0.000
Number of observations	743				743			
Number of groups	21				21			
Min Observations per group	10				10			
Avg Observations per group	35.4				35.4			
Max Observations per group	53				53			
R square within	0.706				0.663			
R square between	0.742				0.866			
R square overall	0.634				0.771			
Hausman Test	0				0			

Table 30 Cumulative significance of coefficients for old agricultural voivodeships.

type of ALMPs	joint effects for old agricultural voivodeships			
	fixed effects		random effects	
Intervention Works	F(7, 690) = 1.47	Prob > F = 0.1746	chi2(7) = 7.06	Prob > chi2 = 0.4223
Public Works	F(5, 690) = 4.13	Prob > F = 0.0010	chi2(5) = 14.44	Prob > chi2 = 0.0130
Loans	F(6, 690) = 2.50	Prob > F = 0.0214	chi2(6) = 12.01	Prob > chi2 = 0.0616

In the case of the industrial voivodeships, the results indicate the medium-range efficiency of ALMP of all the groups. The results for this group can be found in Table 31. The results have the same pattern as general results with a positive effect in case of training (cumulative coefficient of 0.011) and positive external effect of public works (cumulative coefficient of 0.02) and a negative external effect in case of intervention works (cumulative coefficient of -0.107). Start up loans have a cumulative coefficient of -0.051, indicating substitution/ displacement effects.

Table 31 Augmented matching function estimates for old industrial voivodeships.

	Fixed Effects				Random Effects			
Outflows	Coefficient	Std. Error	T-statistics	P>|t|	Coefficient	Std. Error	Z-statistics	Z>|t|
ln unemployment (t-1)	0.380	0.049	7.750	0.000	0.576	0.035	16.420	0.000
ln vacancies (t-1)	0.070	0.017	4.190	0.000	0.054	0.010	5.140	0.000
Training	0.011	0.013	0.860	0.391	0.063	0.011	5.950	0.000
ln Intervention Works	0.045	0.026	1.730	0.085	0.036	0.028	1.300	0.193
ln Intervention Works (t-1)	-0.084	0.026	-3.190	0.002	-0.079	0.029	-2.680	0.007
ln Intervention Works (t-2)	-0.012	0.023	-0.530	0.595	-0.006	0.029	-0.190	0.846
ln Intervention Works (t-3)	-0.016	0.022	-0.730	0.467	-0.010	0.025	-0.380	0.707
ln Intervention Works (t-4)	-0.012	0.019	-0.660	0.511	-0.003	0.024	-0.120	0.905
ln Intervention Works (t-5)	-0.011	0.020	-0.530	0.598	-0.005	0.024	-0.200	0.845
ln Intervention Works (t-6)	-0.016	0.019	-0.880	0.378	0.013	0.022	0.610	0.542
ln Public Works	0.023	0.015	1.550	0.123	0.016	0.014	1.150	0.249
ln Public Works (t-1)	0.010	0.012	0.880	0.379	0.017	0.014	1.250	0.212
ln Public Works (t-2)	-0.006	0.012	-0.540	0.590	-0.005	0.014	-0.350	0.724
ln Public Works (t-3)	0.009	0.012	0.740	0.460	0.010	0.014	0.690	0.491
ln Public Works (t-4)	-0.015	0.011	-1.370	0.170	-0.017	0.012	-1.420	0.157
ln Startup Loans	0.003	0.014	0.210	0.833	0.001	0.014	0.070	0.945
ln Startup Loans (t-1)	0.003	0.013	0.230	0.818	0.000	0.015	-0.020	0.983
ln Startup Loans (t-2)	0.011	0.012	0.940	0.348	0.010	0.014	0.710	0.480
ln Startup Loans (t-3)	-0.014	0.011	-1.290	0.196	-0.020	0.013	-1.570	0.117
ln Startup Loans (t-4)	-0.016	0.012	-1.360	0.173	-0.019	0.013	-1.470	0.142
ln Startup Loans (t-5)	-0.037	0.010	-3.640	0.000	-0.046	0.011	-4.140	0.000
d1	0.000	0.000	3.930	0.000	0.000	0.000	4.020	0.000
d2	0.000	0.000	4.490	0.000	0.000	0.000	3.960	0.000
d3	0.000	0.000	8.160	0.000	0.000	0.000	6.780	0.000
d4	0.000	0.000	8.340	0.000	0.000	0.000	7.130	0.000
d5	0.001	0.000	12.480	0.000	0.000	0.000	10.810	0.000
d6	0.000	0.000	9.180	0.000	0.000	0.000	8.300	0.000
d7	0.000	0.000	9.920	0.000	0.000	0.000	9.320	0.000
d8	0.000	0.000	8.840	0.000	0.000	0.000	8.220	0.000
d9	0.001	0.000	15.180	0.000	0.001	0.000	14.170	0.000
d10	0.001	0.000	15.440	0.000	0.001	0.000	13.520	0.000
d11	0.000	0.000	9.940	0.000	0.000	0.000	8.710	0.000
employment share in state industry	(dropped)				0.001	0.000	6.830	0.000
employment share in agriculture	(dropped)				0.001	0.000	8.670	0.000
_cons	0.003	0.001	6.100	0.000	0.000	0.000	0.510	0.612
Number of observations	692				692			
Number of groups	16				16			
Min Observations per group	28				28			
Avg Observations per group	43.3				43.3			
Max Observations per group	54				54			
R square within	0.686				0.664			
R square between	0.842				0.944			
R square overall	0.695				0.827			
Hausman Test	0				0			

Table 32 Cumulative significance of coefficients for old industrial voivodeships.

type of ALMPs	joint effects for old industrial voivodeships			
	fixed effects		random effects	
Intervention Works	F(7, 644) = 4.70	Prob > F = 0.0000	chi2(7) = 16.27	Prob > chi2 = 0.0227
Public Works	F(5, 644) = 1.94	Prob > F = 0.0854	chi2(5) = 10.87	Prob > chi2 = 0.0540
Loans	F(6, 644) = 3.92	Prob > F = 0.0007	chi2(6) = 44.02	Prob > chi2 = 0.0000

The results for modern voivodeships region can be found in Table 33. The estimation results for modern voivodeships show the highest efficiency between all types for training with a coefficient of 0.024. The highest efficiency is also demonstrated by the estimation results on public works with the cumulative coefficient of 0.097, showing positive external effects. Intervention works are the least efficient in the modern voivodeships with a cumulative coefficient of -0.14, indicating substitution/ displacement effects. Start up loans have the highest efficiency, but still show substitution/ displacement effects with the cumulative coefficient of -0.002.

Table 33 Augmented matching function estimates for old modern voivodeships.

	Fixed Effects				Random Effects			
Outflows	Coefficient	Std. Error	T-statistics	P>|t|	Coefficient	Std. Error	Z-statistics	Z>|t|
ln unemployment (t-1)	0.500	0.047	10.590	0.000	0.514	0.040	12.980	0.000
ln vacancies (t-1)	0.086	0.027	3.220	0.001	0.089	0.013	6.640	0.000
Training	0.024	0.019	1.260	0.207	0.030	0.015	1.910	0.057
ln Intervention Works	-0.014	0.042	-0.340	0.734	0.027	0.038	0.720	0.473
ln Intervention Works (t-1)	-0.062	0.043	-1.440	0.152	-0.056	0.044	-1.250	0.210
ln Intervention Works (t-2)	-0.028	0.034	-0.830	0.409	-0.028	0.036	-0.800	0.425
ln Intervention Works (t-3)	0.027	0.035	0.780	0.437	0.042	0.037	1.120	0.263
ln Intervention Works (t-4)	-0.037	0.036	-1.030	0.304	-0.025	0.038	-0.650	0.513
ln Intervention Works (t-5)	-0.014	0.035	-0.390	0.695	-0.004	0.036	-0.120	0.907
ln Intervention Works (t-6)	-0.012	0.030	-0.410	0.684	0.011	0.030	0.370	0.710
ln Public Works	0.047	0.019	2.530	0.012	0.040	0.017	2.280	0.022
ln Public Works (t-1)	-0.008	0.014	-0.540	0.589	-0.011	0.016	-0.660	0.507
ln Public Works (t-2)	0.004	0.016	0.270	0.787	0.002	0.016	0.130	0.896
ln Public Works (t-3)	0.034	0.016	2.100	0.037	0.026	0.017	1.510	0.132
ln Public Works (t-4)	0.019	0.017	1.120	0.264	0.007	0.016	0.400	0.688
ln Startup Loans	-0.006	0.018	-0.320	0.746	0.010	0.018	0.550	0.581
ln Startup Loans (t-1)	0.013	0.015	0.820	0.414	0.021	0.016	1.350	0.176
ln Startup Loans (t-2)	-0.012	0.015	-0.860	0.392	-0.007	0.015	-0.490	0.625
ln Startup Loans (t-3)	-0.002	0.014	-0.120	0.904	0.002	0.016	0.120	0.903
ln Startup Loans (t-4)	0.005	0.016	0.320	0.752	0.011	0.018	0.580	0.564
ln Startup Loans (t-5)	0.000	0.014	0.010	0.990	0.012	0.015	0.790	0.428
d1	0.000	0.000	2.210	0.028	0.000	0.000	2.670	0.008
d2	0.000	0.000	4.700	0.000	0.000	0.000	4.570	0.000
d3	0.000	0.000	6.540	0.000	0.000	0.000	5.980	0.000
d4	0.000	0.000	6.300	0.000	0.000	0.000	5.940	0.000
d5	0.001	0.000	11.250	0.000	0.001	0.000	9.960	0.000
d6	0.001	0.000	9.800	0.000	0.001	0.000	9.690	0.000
d7	0.000	0.000	7.650	0.000	0.000	0.000	7.590	0.000
d8	0.000	0.000	3.830	0.000	0.000	0.000	3.900	0.000
d9	0.001	0.000	8.060	0.000	0.001	0.000	8.110	0.000
d10	0.001	0.000	8.240	0.000	0.000	0.000	7.970	0.000
d11	0.000	0.000	6.420	0.000	0.000	0.000	5.990	0.000
employment share in state industry	(dropped)				-0.001	0.001	-1.420	0.155
employment share in agriculture	(dropped)				0.000	0.000	1.920	0.055
_cons	0.001	0.000	2.960	0.003	0.001	0.000	1.900	0.057
Number of observations	358				358			
Number of groups	8				8			
Min Observations per group	29				29			
Avg Observations per group	44.8				44.8			
Max Observations per group	54				54			
R square within	0.741				0.729			
R square between	0.573				0.923			
R square overall	0.695				0.769			
Hausman Test	0.9998				0.9998			

Table 34 Cumulative significance of coefficients for old modern voivodeships.

type of ALMP	joint effects for old modern voivodeships			
	fixed effects		random effects	
Intervention Works	F(7, 318) = 2.13	Prob > F = 0.0401	chi2(7) = 5.29	Prob > chi2 = 0.6241
Public Works	F(5, 318) = 2.18	Prob > F = 0.0561	chi2(5) = 8.63	Prob > chi2 = 0.1246
Loans	F(6, 318) = 0.20	Prob > F = 0.9755	chi2(6) = 7.76	Prob > chi2 = 0.2566

Comparison of ALMPs results for the three types of voivodeships provides a mixed picture. Clearly, ALMP seems to be most efficient in the modern voivodeships and least efficient in local economies characterised by 'old' types of economic structures. This would indicate that some policies supporting structural adjustment like incentives for investors, or infrastructure upgrade, may be more effective than ALMP to combat unemployment in the regions that are economically "backward".

6.4 Conclusions

Overall, the results demonstrate some of the ALMPs as having a negative substitution/ displacement effects. In particular that relates to intervention works, which is a very crude policy measure. On the other hand, more sophisticated policies, especially the training programmes seem to be efficient. Moreover, there is a positive change in the results of the training programmes when compared with the results for the earlier and for the more recent period. However, another policy, which has also a clear-cut positive external effect, is public works.

The results obtained for new voivodeships, with the exclusion of the recession period of 2001-2002 match the results for old voivodeships. The coefficients for public works and intervention works are almost the same, and the effect of training has a stronger positive effect in the case of new voivodeships, showing the improved efficiency of this policy. These tests, lead to an important conclusion that the impact of the ALMPs

is conditional on the overall macroeconomic conditions, being weaker when the overall level of economic activity is weaker. The policy implication of this finding is that while some types of ALMPs (see above) may be efficient with dealing with specific social unemployment related problems, the ALMP cannot be used as an effective countercyclical macro policy tool, or any sort of automatic macro stabiliser.

Another important result is obtained when I analyse groups of voivodeships, divided into agricultural, modern and industrial voivodeships. I demostrate that the differences between regions lead to different patterns of policy impact. The type of regional structure which is most different to the others is the agricultural type, where also the unemployment level is the highest. The effects of training, unlike in the other types (in the earlier period, i.e. in the old voivodeships) are negative, while the effect of intervention works is positive. The policies such as training are the most efficient in the modern voivodeships, where the efficiency of intervention works is the lowest. This strongly suggests that the policy measures should be calibrated according to the type of the regional economic structures and that the more sophisticated types of ALMP are not very effective in the more traditional structural environment. In contrast, even if perheps not surprisingly, some of the more crude policy measures (especially: intervention works) perform better there. In short, more sophisticated policies are more appropriate to more sophisticated sectoral structures.

These findings are in line with the results of VAR analysis of regional labour market dynamics, which showed a great persistence in unemployment, especially in the poorer regions, indicating that these regions do not respond in the same way as the other regions do. I now offer a novel explanation to this structural outcome: the existing persistence in inter-regional differences in unemployment may be (partly)

resulting from the fact that the policy measures are not adjusted and are not used selectively consistent with the local economic environment.

The results permit the drawing out of a tentative conclusion that ALMPs in Poland should be reassessed as for their efficiency, as many of the measures used might constitute a loss of tax payers money, substitution or displacement effect. Also, these policies should be carefully designed and should take into account different types of regions, which might have different needs and requirements.

Chapter 7 Conclusions

In the thesis I have aimed to analyse the regional labour market dynamics and effectiveness of active labour market policies in alleviating the regional differences in unemployment. My main research focus was to assess the effectiveness of the elements of ALMPs and to suggest possible explanations of the heterogeneity in their outcomes. These explanations focused on the process of economic transition (liberalisation) highlighting its impact on restructuring and on labour markets, especially on their spatial dimension. My objective was to combine the existing labour market- and transition theory with new empirical research and to arrive at recommendations regarding the appropriate mix of policy response to the unemployment problem. In addition, I analysed the experiences of the Spanish labour market reforms to understand the likely trajectory induced by a similar liberalisation process and labour market institutional reform in Poland. That enabled me to see the post-communist transition process in the comparative context of the post-fascist liberalisation programme. A related policy objective was to explore if and which of the institutional reforms in Spain led to better labour market performance and if the same outcome may be expected in Poland if similar reforms are implemented.

This research programme was successfully implemented. Through the empirical (econometric) part of thesis, where the persistence of unemployment in the Polish and Spanish labour markets was investigated, I demonstrated that the unemployment problem cannot be understood just by looking at the aggregate figures. This is because the results indicate very strong regional unemployment persistence, especially in poorer regions. I also measured the effectiveness of the labour market policies and

combining these results with the theoretical perspective on restructuring in transition, I drew conclusions for the policy makers, arguing that the unemployment problem can be alleviated if the appropriate policy mix is applied.

In my empirical design, I focused on the Polish economy. The Polish labour market has been subject to a very powerful transformation since 1989. The introduction of market principles apart from the positive results was accompanied by side effects, most significantly unemployment. I argued that the rise in unemployment in Poland was primarily an effect of job destruction through deindustrialisation and the restructuring process, which resulted from the political and economic transition. The main challenge for the economy as a whole was to match this with job creation in the new sector, which was in turn dependent on a high rate of growth in production and a high rate of labour productivity growth. The economy faced and still faces restructuring challenges of specific industrial branches including coal mining, metallurgy, energy production, the arms industry, the shipbuilding industry, rail transport and agriculture. In this thesis I have sought to demonstrate that this structural dimension cannot be neglected, as it translates into the heterogeneity of regional outcomes. However, I argue that while the adequately addressed labour market policy tools may reduce inter-regional differences, the overall success of labour market policy may be conditional on implementing the labour market reforms similar to those recently implemented in Spain. In particular, lifting of some institutional barriers like the limitations in the labour code should be reconsidered.

Moreover, some policies intended to alleviate the problem of unemployment, do not necessarily produce the expected results, either because they have undesired indirect effects (that includes relatively easy access to early retirement, and other social

benefits) or seem to be inefficient or not calibrated according to the local needs (that relates to some elements of ALMPs as documented by my empirical results).

Overall, improving the Polish labour market is an enormous challenge for the country's government. However, over the past 30 years, there were a number of OECD countries (Spain, Luxembourg, the Netherlands, Norway, the United States) that have succeeded in raising overall employment rates by 10 or more percentage points. The nature of those countries' problems was different in each case. Nevertheless, the improvements were the results of a fundamental labour market reform.

As discussed, the country whose situation was the most comparable with that of Poland is Spain. Even though, the level of development and the international macroeconomic scenarios were different when Spain entered the EU in 1986, to those encountered almost 20 years after, when Poland and other 9 countries joined the EU in 2004, the transformations of both countries required substantial labour reallocation from resource-intensive to labour intensive activities, and from agriculture and manufacturing to services. Therefore, it is argued that the analysis of the Spanish experiences could be of benefit in the Polish case and more generally, that the focus on the restructuring process is essential for any successful theoretical analysis of the corresponding labour market outcomes.

Based on the Spanish experience it can be concluded that too rigid labour legislation impedes employment growth or even contributes to employment destruction. A rigid institutional framework may convert temporary shocks into permanent ones creating a hysteresis effect, and this is the institutional context of my results on regional persistence in unemployment rates in both countries. A flexible labour market allows

for a better accommodating of the labour reallocation. The Spanish case shows that restrictive employment protection legislation in the times of deindustrialisation and shifts in the sectoral composition of employment was one of the reasons for rising unemployment levels. In addition, generous and long-lasting unemployment benefits were also contributing to hysteresis and unemployment persistence.

Through the analysis of the developments of regional labour markets in Poland and Spain since their transition to democracy and the open market I have highlighted the similarities between these two economies. By investigating the extent to which labour market shocks are shared by all regions and how regional employment, unemployment and labour force participation adjust to labour demand shocks which are region-specific, I have shown that on average 32% of the changes in regional employment are shared by all regions in Spain and 17% in Poland. In terms of participation rate, on average 65% of the changes in regional participation rate are shared by all regions in Spain and 46% in Poland.

More importantly, for the unemployment rates, through this research, I have obtained results which suggest a very high level of persistence of this variable in both Spain and Poland. On average 89% of the changes in regional unemployment rate are shared by all regions in Spain and 74% in Poland.

When comparing these results with results obtained by other researchers on different regions, specifically EU and US, it is possible to conclude that the differences in relative unemployment rates between regions seem to be more persistent in Europe than in the US, suggesting that regional employment shocks may not be absorbed by changes in regional unemployment rates. Blanchard and Katz (1992) find that in the US the fast return to the long-term means happens because labour force participants

migrate into states which have benefited from a favourable demand shock. However, in case of Spain and Poland, unemployment is persistent in both countries. Unlike in the US, in Poland and Spain interregional migration is very low. The strongest initial effect of the shock is observed in Poland. However, in the Polish regions, employment returns to equilibrium relatively faster than in Spain, which is a positive sign.

However, a worrying result is the fact that both in Poland and Spain, the poorer regions do not respond in the same way as the other regions do. Polish regional labour markets respond in a more diversified way than the Spanish regions. This fact indicates that the Polish transition led to more regional contrasts in labour markets than the Spanish one. I attribute this result to the specific challenge of sectoral restructuring in Poland. My unique contribution is to demonstrate that the sectoral profile of the region correlates strongly with the effectiveness of the policy tools. This result is likely to be of a more general nature and deserves further research based on other countries samples.

In order to improve the labour market situation in Poland, a number of reforms should be carried out. To facilitate an increase in effective labour supply, policy makers need to reduce the passive income support measures provided through the disability system and other premature labour market withdrawal schemes in order to reduce inactivity traps. The policy agenda needs to address unemployment issues through better fiscal-monetary policy mix, through greater flexibility in the wage structure, and, through tax reductions on labour income, and changes in the labour code. The challenge for the social protection system is to design social protection schemes with the correct incentives, which would not discourage employment participation. My empirical

results indicate that the investments in worker's education and training need to be improved and more importantly, the choice of the programmes should be consistent with the regional characteristics. Accordingly, ALMPs should be reassessed, well-designed, properly evaluated, and most importantly, well-targeted and diversified.

I have approximated the effectiveness of the active labour market policies using the augmented matching function approach. Overall, the results obtained through my research indicate that some of the ALMPs have negative substitution/displacement effects. In particular, the use of intervention works is problematic and should be reassessed. The policy, which has the strongest positive external effect, is public works and the worst negative external effect relates to intervention works, through its substitution/displacement effects. Training has a positive, but weak effect. Most importantly, my contribution is to show that the effects of ALMPs are conditional on regional characteristics. When analyzing Polish regions divided into agricultural, modern and industrial voivodeships, strong differences in the effectiveness of the analysed measures are discovered, with agricultural voivodeships differing more than other types. The effects of training, unlike in the other types, in the old voivodeships are negative, while the effect of intervention works is positive. The policies like training are the most efficient in the modern voivodeships, where the efficiency of intervention works is the lowest. This strongly suggests that the policy measures should be calibrated according to the type of regional economic structures and that the more sophisticated types of ALMP are not very effective in the more traditional structural environment. These findings are in line with the results of VAR analysis of regional labour market dynamics, which showed a great persistence in unemployment, especially in the poorer regions, indicating that these regions do not respond in the

same way as the other regions do. I now offer a novel explanation to this structural outcome: namely the existing persistence in inter-regional differences in unemployment may be (partly) resulting from the fact that the policy measures are not adjusted and are not used selectively and consistent with the local economic environment.

The results allow drawing a tentative conclusion that ALMPs should be reassessed as for their efficiency. Also, the policies should be carefully designed and take into account different types of regions, which might have different needs and requirements. However, it needs to be emphasised that the solution to the unemployment problem requires a combination of well-designed ALMPs and a more fundamental labour reform. These results have more general implications, and are likely to extend to other transition economies. It is with respect to the latter that Poland and other transition economies may learn from the recent positive experience of Spain. I claim that while the structural change in Poland makes the unemployment problem particularly difficult, by learning from the Spanish experience, Poland may introduce adequate labour market policies and institutions much earlier in its transition cycle than the Spain did. Learning from others is always beneficial.

The limitations of this research were related to constraints on the data availability. Large effort was put into obtaining the data. Because of the lack of data, the empirical literature on ALMPs remains very limited and the current study makes an important contribution to it. Nevertheless, its analysis is based on the Polish case only. For a future research it would be interesting to investigate the ALMPs of other Eastern European countries to test my suggestion that the lessons that relate to Poland may also be applied to other countries undergoing a process of deep structural changes.

Appendix 1 Results of regressions of regional employment growth, unemployment rate and the logarithm of the participation rate.

Table 35 Regressions of regional employment growth, unemployment rate and the logarithm of the participation rate for Spain (1976-2004) and Poland (1999-2004). Quarterly data.

Spain	participation rate			Unemployment rate			employment		
Region	c	ξ	R2	c	δ	R2	c	β	R2
Andalucía	-2.055	1.508	0.770	1.037	**0.782**	0.953	0.000	**1.432**	0.456
Aragón	0.782	0.792	0.781	-0.956	1.199	0.912	-0.002	1.095	0.444
Asturias	6.664	**-0.713**	**0.133**	-0.569	1.172	0.935	-0.003	0.741	0.227
Balears (Illes)	-2.555	**1.665**	0.834	-0.261	0.936	0.841	0.002	0.975	0.195
Canarias	-0.288	1.083	0.775	0.633	0.821	0.838	0.003	1.058	0.281
Cantabria	2.171	0.439	0.137	-0.792	1.238	0.931	0.000	0.662	**0.102**
Castilla y León	1.574	0.584	0.530	-0.406	1.100	0.957	-0.002	0.793	0.455
Castilla - La Mancha	-1.116	1.262	**0.931**	0.015	0.935	0.964	0.000	0.842	0.304
Cataluña	-0.814	1.222	0.899	-0.350	1.081	0.878	0.000	1.026	**0.583**
Comunidad Valenciana	-0.304	1.085	0.917	-0.712	1.227	**0.982**	0.001	1.082	0.548
Extremadura	-0.969	1.227	0.793	0.579	0.908	0.887	-0.003	1.247	0.205
Galicia	6.710	-0.693	0.142	-1.435	1.393	0.759	-0.002	**0.575**	0.205
Madrid (Comunidad de)	-1.121	1.289	0.859	0.101	0.907	0.820	0.002	0.922	0.366
Murcia	-1.850	1.470	0.780	-0.107	1.027	0.950	0.002	1.043	0.197
Navarra	-0.654	1.168	0.782	-0.344	0.976	**0.690**	0.001	0.840	0.248
País Vasco	0.740	0.817	0.773	-0.380	1.140	0.948	0.000	0.812	0.351
Rioja (La)	0.779	0.795	0.273	-2.027	**1.540**	0.955	-0.001	0.992	0.235
max	**6.710**	**1.665**	**0.931**	**1.037**	**1.540**	**0.982**	**0.003**	**1.432**	**0.583**
min	**-2.555**	**-0.713**	**0.133**	**-2.027**	**0.782**	**0.690**	**-0.003**	**0.575**	**0.102**
average	**0.453**	**0.882**	**0.653**	**-0.351**	**1.081**	**0.894**	**0.000**	**0.949**	**0.318**

Poland	participation rate			Unemployment rate			employment		
Region	c	ξ	R2	c	δ	R2	c	β	R2
Dolnośląskie	-1.080	1.262	0.532	-0.044	1.109	**0.942**	0.002	2.292	0.269
Kujawsko-Pomorskie	4.458	**-0.107**	**0.008**	0.121	0.994	0.801	-0.005	-1.187	0.122
Lubelskie	1.165	0.721	0.377	0.517	0.761	0.803	-0.006	-0.172	0.005
Lubuskie	1.951	0.508	0.237	0.323	0.977	0.882	0.005	0.963	0.097
Łódzkie	-0.654	1.165	0.889	0.122	0.966	0.827	-0.011	-1.840	0.239
Malopolskie	1.046	0.746	0.471	-1.714	**1.512**	0.799	-0.011	-1.578	0.301
Mazowieckie	-3.539	1.894	0.145	-0.581	1.128	0.662	0.018	5.169	0.145
Opolskie	-7.703	**2.907**	**0.918**	1.088	0.616	0.513	-0.021	**-2.243**	0.191
Podkarpackie	-2.232	1.560	0.503	0.905	0.645	0.592	-0.012	-0.485	0.009
Podlaskie	-3.410	1.857	0.831	-0.858	1.307	0.936	-0.003	1.345	0.110
Pomorskie	-0.116	1.027	0.354	-0.081	1.041	0.808	0.008	3.164	0.266
Śląskie	0.780	0.785	0.357	-0.081	1.041	0.808	0.026	**6.329**	**0.588**
Świętokrzyskie	-4.070	2.002	0.480	0.499	0.822	0.721	0.001	0.751	0.022
Warmińsko-Mazurskie	-2.084	1.512	0.656	2.119	**0.364**	**0.414**	-0.011	-1.002	0.042
Wielkopolskie	2.782	0.315	0.201	-0.952	1.290	0.865	-0.008	-2.069	0.238
Zachodniopomorskie	-7.050	2.745	0.320	0.571	0.890	0.475	-0.015	-0.822	**0.003**
max	**4.458**	**2.907**	**0.918**	**2.119**	**1.512**	**0.942**	**0.026**	**6.329**	**0.588**
min	**-7.703**	**-0.107**	**0.008**	**-1.714**	**0.364**	**0.414**	**-0.021**	**-2.243**	**0.003**
average	**-1.235**	**1.306**	**0.455**	**0.122**	**0.967**	**0.740**	**-0.003**	**0.538**	**0.165**

Appendix 2 Results of pooled sample regressions.

Table 36 Spain, pooled data from the sample of 17 autonomous communities, with common intercept, employment

Sample(adjusted): 1977:1 2004:1
Included observations: 109 after adjusting endpoints
Number of cross-sections used: 16
Total panel (balanced) observations: 1744

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003159	0.000472	6.691818	0.0000
EMPL(-1)	0.022920	0.022975	0.997618	0.3186
EMPL(-2)	-0.286335	0.022962	-12.46985	0.0000
R-squared	0.082214	Mean dependent var		0.002555
Adjusted R-squared	0.081160	S.D. dependent var		0.020310

Table 37 Spain, pooled data from the sample of 17 autonomous communities, with fixed effects, employment

Sample(adjusted): 1977:1 2004:1
Included observations: 109 after adjusting endpoints
Number of cross-sections used: 16
Total panel (balanced) observations: 1744

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EMPL(-1)	0.011546	0.022988	0.502236	0.6156
EMPL(-2)	-0.298074	0.022982	-12.96982	0.0000
Fixed Effects				
_01--C	0.004712			
_02--C	0.001775			
_03--C	-0.000844			
_04--C	0.006748			
_05--C	0.007829			
_06--C	0.002257			
_07--C	0.000644			
_09--C	0.003736			
_10--C	0.004614			
_11--C	0.001471			
_12--C	-0.001145			
_13--C	0.005247			
_14--C	0.005836			
_15--C	0.003968			
_16--C	0.002221			
_17--C	0.002321			
R-squared	0.097057	Mean dependent var		0.002555
Adjusted R-squared	0.088163	S.D. dependent var		0.020310

Table 38 Spain, pooled data from the sample of 17 autonomous communities, with fixed effects, participation rate

Sample: 1977:1 2004:1
Included observations: 109
Number of cross-sections used: 16
Total panel (balanced) observations: 1744

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PART(-1)	0.851783	0.023986	35.51166	0.0000
PART(-2)	0.056138	0.023364	2.402746	0.0164
Fixed Effects				
_01--C	-0.188987			
_02--C	0.071993			
_03--C	0.612936			
_04--C	-0.235113			
_05--C	-0.025752			
_06--C	0.199854			
_07--C	0.144348			
_09--C	-0.074717			
_10--C	-0.027812			
_11--C	-0.089665			
_12--C	0.616945			
_13--C	-0.102918			
_14--C	-0.170608			
_15--C	-0.060343			
_16--C	0.067981			
_17--C	0.071061			
Weighted Statistics				
R-squared	0.999985	Mean dependent var		0.385221
Adjusted R-squared	0.999985	S.D. dependent var		2.456468

Table 39 Spain, pooled data from the sample of 17 autonomous communities, with common intercept, participation rate

Sample: 1977:1 2004:1
Included observations: 109
Number of cross-sections used: 16
Total panel (balanced) observations: 1744

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.87E-06	0.000182	0.054357	0.9567
PART?(-1)	0.914148	0.023755	38.48236	0.0000
PART?(-2)	0.085722	0.023751	3.609147	0.0003
Weighted Statistics				
R-squared	0.999984	Mean dependent var		0.383238
Adjusted R-squared	0.999984	S.D. dependent var		2.464218

Table 40 Spain, pooled data from the sample of 17 autonomous communities, with fixed effects, unemployment rate

Sample(adjusted): 1977:1 2004:2
Included observations: 110 after adjusting endpoints
Number of cross-sections used: 16
Total panel (balanced) observations: 1760

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNEMPL?(-1)	0.773038	0.023468	32.94009	0.0000
UNEMPL?(-2)	0.157780	0.023578	6.691934	0.0000
Fixed Effects				
_01--C	0.070786			
_02--C	-0.069485			
_03--C	-0.037581			
_04--C	-0.019041			
_05--C	0.040199			
_06--C	-0.054418			
_07--C	-0.025257			
_09--C	-0.024416			
_10--C	-0.049395			
_11--C	0.043600			
_12--C	-0.090354			
_13--C	0.002836			
_14--C	-0.008837			
_15--C	-0.029462			
_16--C	-0.026625			
_17--C	-0.139192			
R-squared	0.992298	Mean dependent var		-0.374827
Adjusted R-squared	0.992223	S.D. dependent var		0.756334

Table 41 Spain, pooled data from the sample of 17 autonomous communities, with common intercept, unemployment rate

Sample(adjusted): 1977:1 2004:2
Included observations: 110 after adjusting endpoints
Number of cross-sections used: 16
Total panel (balanced) observations: 1760

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001810	0.001790	-1.011250	0.3120
UNEMPL(-1)	0.805418	0.023167	34.76642	0.0000
UNEMPL(-2)	0.190050	0.023142	8.212228	0.0000
R-squared	0.992096	Mean dependent var		-0.374827
Adjusted R-squared	0.992087	S.D. dependent var		0.756334

Table 42 Poland, pooled data from the sample of 16 voivodeships, with fixed effects, employment

Sample(adjusted): 2000:2 2004:2
Included observations: 17 after adjusting endpoints
Number of cross-sections used: 15
Total panel (balanced) observations: 255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EMPL(-1)	-0.456308	0.063801	-7.152055	0.0000
EMPL (-2)	-0.194549	0.063852	-3.046886	0.0026
Fixed Effects				
_01--C	0.000887			
_02--C	-0.013010			
_03--C	-0.007638			
_04--C	0.009504			
_05--C	-0.022253			
_06--C	-0.021612			
_07--C	0.030022			
_09--C	-0.013672			
_10--C	-0.005575			
_11--C	0.017416			
_12--C	0.051652			
_13--C	-0.003639			
_14--C	-0.018405			
_15--C	-0.020973			
_16--C	-0.015323			
R-squared	0.216614	Mean dependent var		-0.001252
Adjusted R-squared	0.163950	S.D. dependent var		0.061265

Table 43 Poland, pooled data from the sample of 16 voivodeships, with common intercept, employment

Sample(adjusted): 2000:2 2004:2
Included observations: 17 after adjusting endpoints
Number of cross-sections used: 15
Total panel (balanced) observations: 255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001887	0.003627	-0.520266	0.6033
EMPL(-1)	-0.363135	0.063484	-5.720120	0.0000
EMPL(-2)	-0.100603	0.063332	-1.588482	0.1134
R-squared	0.115261	Mean dependent var		-0.001252
Adjusted R-squared	0.108240	S.D. dependent var		0.061265

Table 44 Poland, pooled data from the sample of 16 voivodeships, with fixed effects, participation rate

Sample(adjusted): 2000:2 2004:2
Included observations: 17 after adjusting endpoints
Number of cross-sections used: 15
Total panel (balanced) observations: 255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PART(-1)	-0.050466	0.066687	-0.756761	0.4499
PART(-2)	-0.034333	0.066543	-0.515945	0.6064
Fixed Effects				
_01--C	-1.172095			
_02--C	4.836528			
_03--C	1.265773			
_04--C	2.116317			
_05--C	-0.709047			
_06--C	1.133781			
_07--C	-3.831303			
_09--C	-2.419870			
_10--C	-3.696854			
_11--C	-0.122899			
_12--C	0.844573			
_13--C	-4.417331			
_14--C	-2.262567			
_15--C	3.016742			
_16--C	-7.650694			
R-squared	0.999902	Mean dependent var		-0.803095
Adjusted R-squared	0.999895	S.D. dependent var		2.905697

Table 45 Poland, pooled data from the sample of 16 voivodeships, with common intercept, participation rate

Sample(adjusted): 2000:2 2004:2
Included observations: 17 after adjusting endpoints
Number of cross-sections used: 15
Total panel (balanced) observations: 255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000501	0.002322	0.215942	0.8292
PART(-1)	0.494101	0.054752	9.024291	0.0000
PART(-2)	0.505530	0.054754	9.232696	0.0000
R-squared	0.999850	Mean dependent var		-0.803095
Adjusted R-squared	0.999849	S.D. dependent var		2.905697

Table 46 Poland, pooled data from the sample of 16 voivodeships, with fixed effects, unemployment rate

Sample(adjusted): 2000:2 2004:2
Included observations: 17 after adjusting endpoints
Number of cross-sections used: 15
Total panel (balanced) observations: 255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UNEMPL?(-1)	0.410653	0.062331	6.588251	0.0000
UNEMPL?(-2)	-0.076479	0.060799	-1.257902	0.2097
Fixed Effects				
_01--C	-0.030406			
_02--C	0.084741			
_03--C	0.341079			
_04--C	0.220728			
_05--C	0.087041			
_06--C	-1.140673			
_07--C	-0.392725			
_09--C	0.594770			
_10--C	-0.570843			
_11--C	-0.050736			
_12--C	-0.050736			
_13--C	0.332617			
_14--C	1.407172			
_15--C	-0.634216			
_16--C	0.378162			
R-squared	0.995815	Mean dependent var		0.057678
Adjusted R-squared	0.995533	S.D. dependent var		0.866445

Table 47 Poland, pooled data from the sample of 16 voivodeships, with common intercept, unemployment rate

Sample(adjusted): 2000:2 2004:2
Included observations: 17 after adjusting endpoints
Number of cross-sections used: 15
Total panel (balanced) observations: 255

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000237	0.004128	0.057325	0.9543
UNEMPL(-1)	0.753747	0.056729	13.28672	0.0000
UNEMPL(-2)	0.241175	0.056707	4.253019	0.0000
R-squared	0.994283	Mean dependent var		0.057678
Adjusted R-squared	0.994238	S.D. dependent var		0.866445

Appendix 3 Population of the regions

Table 48 Population of Spain by regions in 2004

Region	Population in thousands	% of the tot. population
Total	34,405.3	
Andalucía	6,038.2	17.6
Aragón	992.2	2.9
Asturias (Principado de)	920.1	2.7
Balears (Illes)	709.5	2.1
Canarias	1,526.9	4.4
Cantabria	458.4	1.3
Castilla y León	2,102.5	6.1
Castilla - La Mancha	1,440.1	4.2
Cataluña	5,338.3	15.5
Comunidad Valenciana	3,545.5	10.3
Extremadura	896.2	2.6
Galicia	2,386.7	6.9
Madrid (Comunidad de)	4,506.2	13.1
Murcia (Región de)	953.5	2.8
Navarra (Comunidad Foral de)	460	1.3
País Vasco	1,786.9	5.2
Rioja (La)	230.8	0.7
Ceuta y Melilla	113.2	0.3

Table 49 Population of Poland by regions in 2004

Region	Population in thousands	% of the tot. population
Total	38,174	
Dolnośląskie	2,893	7.6
Kujawsko-Pomorskie	2,068	5.4
Lubelskie	2,185	5.7
Lubuskie	1,009	2.6
Łódzkie	2,588	6.8
Małopolskie	3,260	8.5
Mazowieckie	5,146	13.5
Opolskie	1,052	2.8
Podkarpackie	2,098	5.5
Podlaskie	1,202	3.1
Pomorskie	2,194	5.7
Śląskie	4,701	12.3
Świętokrzyskie	1,289	3.4
Warmińsko - Mazurskie	1,429	3.7
Wielkopolskie	3,365	8.8
Zachodniopomorskie	1,695	4.4

Appendix 4 Labour market reform in Poland.

Table 50 Main Labour Law Changes Introduced in 1996

The number of the Labour Code article	Subject	Direction of change
Art. 23 par. 6	An employee is automatically *ex lege* transferred to a new employer after a merger or take over	Preventing employee firing when a merger takes place
Art. 25	Mandatory transformation of a third definite employment contract into an indefinite one	Before no limit existed as to the number of employment contracts for a definite time
Art. 25 par. 2	Lengthening of the maximum probation period from 2 weeks to 3 months	Facilitating the selection of employees
Art. 98	Removing the obligation to issue an opinion about an employee's work	Such a mandatory opinion was not credible and in practice was replaced by a letter of reference issued to support an employee
Art. 101	Ban on conducting competing activities to the activities of an employer during and, conditionally, after the termination of employment contract	Before the 1996 Labour Law nothing similar existed
Art. 104	Obligation to create a working code in companies employing more than 5 persons	The law reduced the threshold for writing a working code from 50 to 5 Employees
Art. 129	Shortening weekly working time from 42 to 40 hours	Increased labour costs
Art. 154	According to the Labor Code an employee has the right to: a) 18 days after having worked for at least 1 year; b) 20 days after 6 years; c) 26 days after 10 years	The length of annual leave was increased from 14 to 18 days only for the first group

Source: Surdej A., (2004). Managing Labor Market Reforms: Case Study of Poland. Background paper for the World Development Report 2005

Table 51 Main Labour Law Changes in 2002

The number of the Labour Code article	Subject	Direction of change
Art. 22	The definition of employment contract	Limiting the substitution of self-employment for dependent work
Art. 25	Definite and substitution employment contract	Suspending the third contract rule and introducing flexible substitution employment contract
Art. 37	Limiting the right for a paid leave for the search of a new job	The right is limited to employees who are dismissed by an employer (3 days when a dismissal period is 3 months and 2 days if the dismissal period is shorter) The change requires from an employer

		to consult an enterprise unions and not their local (or regional) offices
Art. 38	Limiting the scope of union consultation in case of an employee's Dismissal	The change requires from an employer to consult an enterprise unions and not their local (or regional) offices
Art. 77 par. 2	Remuneration code	The obligation of preparing a remuneration code limited to enterprises with more than 20 employees
Art. 77	Travel on duty	Employers outside the public sector can set the travel reimbursement about the official minimum level
Art. 86	Payment of salaries	No longer an employer is required to ask an employee for a permission to transfer his salary to his bank account
Art. 92	Sickness pay	The law shortened the employer's payment period from 35 to 33 days and introduced a rule than an employee does not receive a salary for the first day of his sick leave, if the sick leave if for a period of less than 6 days
Art. 93	Death bonus	Employer can discount the insurance premium the family of dead employee gets from a mandatory death bonus, in case he insures his work force (the regulation boosts interest in insuring employees)
Art. 97	Work certificate	Employer does not have to issue a work certificate if an employee renews the contract with him
Art. 104	Working code	The obligation of preparing a working code limited to enterprises with more than 20 employees
Art. 108	Financial fines	Financial fines imposed on employees counted as spending to improve working Conditions
Art. 129	Extension of work duration calculation Period	A weekly working time should be calculated and should stay within maximum limits in the period of 4 (instead of 3) months
Art. 129 (par. 5a)	Extension of the possibility of having an interrupted working time	Interrupted working time is not limited any longer to the transportation sector, but can be used in all sectors of the Economy
Art. 129 (par. 8)	Employment arrangements for task oriented work	Task oriented working time will allow to work at home (for instance telecommuting)
Art. 129 (par. 10)	Break in working time	An employer can introduce one (up to 60 minutes) working break which does not count to the working time
Art. 133	Annual working time	In an employment contract both sides can expand the limit of yearly overtime, but weekly working time cannot exceed 48 hours
Art. 134	Supplement for overtime	The supplement for overtime was

		lowered to 50% for normal days, but kept 100% for overtime for work on Sundays and holidays
Art. 143	Free time for overtime	Employer can grant free time in exchange for work overtime
Art. 154, 155, 162	Principle for granting annual holidays	Free days falling in the period of annual holidays are counted in the duration of annual holidays
Art. 163	Plan of annual holidays	Regulation lifts the obligation to compile the enterprise's plan of annual holidays
Art. 209	Reporting to inspection agencies	Regulation extends the periods in which an employer starting his activities has to report this fact to the local work inspection office and hygiene inspection office
Art. 229	Medical check up	Employees re-hired by the same employer are freed from the obligation to repeat medical check ups
Art. 237	Sanitary education	Employees re-hired by the same employer are freed from the obligation to repeat sanitary education

Source: Surdej A., (2004). Managing Labor Market Reforms: Case Study of Poland, Background paper for the World Development Report 2005

Table 52 Main Labour Law Changes in 2003

The number of the Labour Code article	**Subject**	**Direction of change**
Art. 18	Broadening the list of factors of Discrimination	Ban of discrimination has been extended on ethnic, faith, sexual and form of employment reasons
Art. 37	Leave for search a new job	During a dismissal period an employee can take two days of leave to search for a new job, only if he is covered by a shortened (one month or a two week notice)
Art. 92	Payment for sickness leave	Employer pay 80 percent of remuneration yearly for first 33 days of sickness leave
Art. 132 and 133	Daily and weekly statutory rest	Employees get the right for an uninterrupted 11 hour daily and 35 weekly rest
Art. 154	Length of annual holidays	Since 1 January 2004 each employee has the right to 20 days of annual leave before his cumulative work period reaches 10 years, and 26 days

		afterwards.

Source: Surdej A., (2004). Managing Labor Market Reforms: Case Study of Poland, Background paper for the World Development Report 2005

Labour market reforms after 2003 (based on Ministry of Labour and Social Policy 2005, 2006).

After the labour reform of 2003 there have been new regulations introduced, which relate to individual labour law. They came into force on 1st January 2004 and on 1st May 2005. These include:

- regulations of the law of 14th November 2003 on amendments to the Labour Code and to some related laws (Journal of Laws no. 213, item 2081);
- regulations of the law of 13th March 2003, on special rules for terminating labour relations for reasons not tied to the employees (Journal of Laws no. 90, item 844),
- provisions of the law of 9th July 2003 on the hiring of temporary workers (Journal of Laws no. 166, item 1608).

The first one offers a number of legal solutions which increase the flexibility of labour organisation and facilitate the execution of the employee's vacation entitlements. The introduced solutions include:

- introduction of new working time systems (the system of shortened work week and the system of weekend work)
- the introduction of the balanced working time system, which allows work under significantly extended daily working hours norms;
- increasing the accessibility of work performed only on Sundays and holidays

- more flexible rules of payment for work performed on Sundays and holidays
- facilitating taking up part-time work
- granting the holidays on hourly basis, corresponding to the daily working hours

The second one placed a stress on the process of information and broad consultations with representation of employers at the stage which precedes group lay-offs; and on stronger participation of the county labour offices in preparations concerning offer of active forms of assistance to the laid-off workers. The most important solutions which influence the labour market situation include:

- obligation for the employer to notify the appropriate county labour office of the plans for group lay-off;
- the possibility to hand in notices, under the group lay-off, only after notification of the labour office and terminating the employment relationship not earlier than after 30 days from the date of notification.

The third of the laws listed above, legalises the flexible form of employment. The temporary work is aimed at:

- regulating the legal status of a temporary work agency, and of its customer the employer;
- determining the scope of application of labour law provisions to the temporary workers;
- indicating the rights and obligations of the employer using the services of the temporary work agency;

- determining the scope of application of labour law provisions to the temporary workers, hired under civil law contracts.

In the period of 2004-2005, three amendments have been also introduced to the Labour Code. They covered the following areas:

- special protection for the employment of employees at the pre-retirement age;
- the thresholds for financial deductions which can be made from remuneration upon written approval of the employee;
- definition of the protection period before terminating employment contract without notice, without the employee's fault, and setting the level of remuneration for work incapacity period caused by necessary medical tests for candidates for donors of cells, tissues and organs, and by undergoing the procedure of donating cells, tissues and organs.

Appendix 5 The Labour Reforms in Spain

The transition process established the framework and basis for the labour market legislation. The 1978 Constitution recognised basic social and labour rights and the 1980 Workers' Statute organised the industrial model. The 1980 Basic Law on Employment regulated employment policies and the 1984 Organic Law on Union Freedom regulated trade union activity (González-Calvet, 2002). The 2003 Law on Employment has replaced the former Basic Law on Employment.

Dolado and Bentolila (1994) have analysed the effects of labour reforms introduced in the 1980s and the first half of 1990s and they concluded that the Spanish labour market has become more "dualistic". It was a result of liberalization of fixed-term employment contracts. Instead of easing the employment protection legislation, temporary contracts were introduced. This caused a shift from a model which favoured indefinite contracts and considered temporary ones as exceptional, towards a model in which temporary contracts became the norm. (Tascón, 2000). The conversion of temporary contracts into those in general use is based on the modifications introduced in the Statute of Workers by the 32 Law, passed in August 1984.[29] The reform created a gap between the cost of dismissal of temporary and permanent contracts, and the scope of temporary contracts was subsequently increased.

The Labour Reform introduced in 1994 (the second most important labour market reform in Spain) increased labour market flexibility in response to the new demands

[29] In 1985 the percentage of workers with temporary contracts was of 4.8% in Italy, 4.7% in France and 5.7% in UK. In Spain in 1987 there were 15.6% of temporary workers. See Juan Mayoral, *Gestión de personal*, p. 436.

for greater competitiveness arising from globalisation, economic restructuring and the single market. (Gil Martín, 2002). New forms of contracts were introduced (low-cost or high-flexible). The deregulation of labour market was expanded through easing labour mobility and working hour flexibility. In addition dismissals were made easier and temporary work agencies were introduced. Furthermore, the role of collective negotiation was increased. (González-Calvet, 2002; Segura, 2004; Muñoz de Bustillo, 2002).

Workers have a constitutional right to be covered by a collective bargain, independently of union affiliation (Bentolila and Jimeno, 2003). Trade union membership is generally thought to be "low" in Spain. What matters is that trade union members are legally enabled to bargain for wages and other working conditions on behalf of all workers, trade union members or not. The collective bargaining system is based on elections held every 4 years, where delegates (who may belong to a trade union confederation or be "independent") are elected in a process held within firms and promoted by trade unions themselves. Once delegates are elected, bargaining takes place at three levels: firms, sectors-province, and sector-national. (Toharia, 2001)

The third major labour reform took place in 1997. This reform included the Agreement for Permanent Employment, which enhanced the competitiveness of Spanish firms by improving the quality of the labour market through the reduction of temporality and rotation. At the same time it promoted continuous training (González-Calvet, 2002). The reform also introduced a new permanent contract, with lower

dismissal costs and tax benefits. As a consequence 80% of net employment created after the reform has been permanent, reversing the previous trend (Martín, 2004).

The objective of the reform of 2001 was to promote stable and indefinite contracts. In addition it promoted the employment of part-time, female and groups with special difficulties. It increased flexibility by widening the applicability and scope of the new permanent contracts. It also further reduced the dismissal costs for permanent contracts. It also introduced limited compensation for the dismissal of temporary workers.

The 2003 Law on Employment adapted Spanish employment policies to the new institutional environment of European policies and decentralisation towards autonomous communities. (González-Calvet, 2002)

Appendix 6 Types of employment contracts in Spain

(by Toharia, 2001)

Public servants, who enjoy full employment protection (around 16% of total employees); they cannot be dismissed and they are outside the unemployment benefit system.

Permanent employees, protected by a dismissal cost amounting to 20 days' wages per year of seniority (with a maximum of 12 months' wages) in the case of individual redundancy; this cost increases to 45 days' wages (with a maximum of 48 months' wages) if the dismissal is declared unfair; dismissed workers have the right to a 1 month warning period and can sue the employer; should the latter occur, as happens in almost all cases, there is a negotiation meeting before going to court, where severance payment may be agreed (which occurs in 70% of the cases), the amount agreed depending on the probability that the dismissal be declared unfair by the court, and generally thought to be close to the maximum of 45 days' wages; in the case of collective dismissals, different rules apply, as firms have to bargain with workers, a social plan has to be presented, and the dismissal has to be approved by the authorities, which would happen automatically in case of agreement.

Employment-promotion permanent employees (in existence since 1997); this is the same as above, with the only difference being that dismissal costs in case of an unfair ruling is 33 days' wages with a maximum of 24 months' wages; initially created for a 4 year-period, it has now been made permanent; specific groups of people could be hired under this contract (youngsters between 18 and 30, unemployed registered with the PES for more than 12 months, people older than 45), although the groups affected

have been extended (now all youngsters under 31 may be hired, women in specific occupations where they are "underrepresented" may also be hired); workers previously hired under temporary contracts given a permanent status can also be hired under this new contract. In addition, for most of these groups, the government established a reduction in social contributions (initially for a 2-year period, but later extended yearly). The relative weight of the two kinds of permanent workers is not known, although some estimates indicate that between 25 and 30% of them (i.e. 16-18% of total employees) would correspond (by mid-2001) to the newer regulation.

Workers under fixed-term or temporary contracts (some 32% of total employees). In principle, as already mentioned, they can only be hired to undertake temporary tasks, but it is generally accepted that they can do anything.

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